

THE ATHLETIC JOURNAL

VOLUME XI

NUMBER 4

December, 1930

Another Football Season

John L. Griffith

Defense Against Stalling

R. H. Hager

Offensive and Defensive
Basketball

Charles Bassett

George Edwards

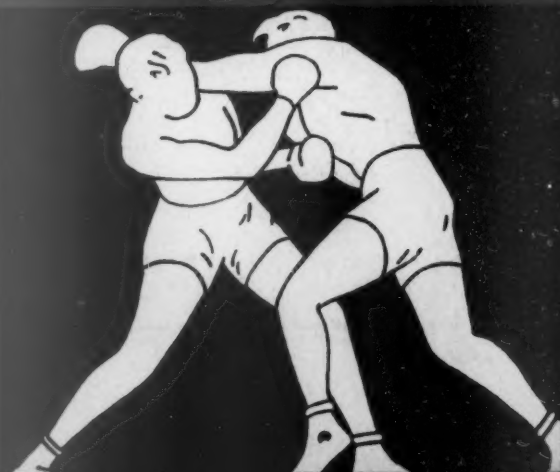
Ward Lambert

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Football Rating Systems

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Ralph W. Powell



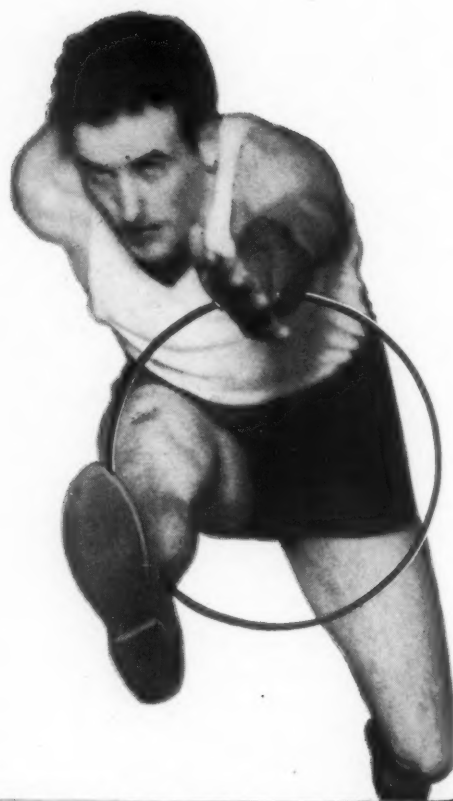
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Mr. W. W. Roper

MR. W. W. ROPER, who played football in his undergraduate days at Princeton University and who for a number of years has coached the Tiger teams, withdraws at the conclusion of this season from active athletic coaching. Mr. Roper, in addition to his coaching experience of Princeton, in 1909 coached the football team at the University of Missouri. There, his work was highly successful. At Princeton his teams have had the reputation of playing inspired football. Roper is a master technician and has developed certain elements of play to the limit of their possibilities, but above all, by appealing to the better natures of his men, he has through the years succeeded in sending his men into the games inspired to play their best.

He has been prominent in the administration of the Football Coaches' Association and has further made a contribution to the game as a member of the Rules Committee.

Although Mr. Roper has retired from coaching, there is no reason to believe that his help and interest will be lost so far as the other coaches are concerned. He will always be enthusiastic about college football, and the colleges of the country will appreciate more and more, as the years go on, the contribution that he has made to their game. His attitude toward football is summed up in the following brief statement:

"Football is needed in American colleges and school life more today than ever. It is a rugged developer of men, and real men are needed more every day. But football is not perfect and is approaching a most trying time.

"The game is so big and so popular that some people are beginning to lose their sense of values. The football coaches throughout the country can keep football clean, sane and sound, and they must do it."

Mr. Roper's implication that the coaches are responsible for the future of the game is timely, and those who know the men who are active in the American Football Coaches' Association have no doubt that the coaches themselves will do everything possible to preserve the integrity of this, the finest game that has ever been played by college men in this country.

Annual Meeting of Football Coaches

THE American Football Coaches Association will meet at the Astor Hotel, New York City, Monday, December 29th. The trustees and chairmen of all committees will meet at the same hotel at 8 P. M. Sunday, December 28th. The Monday morning meeting will be devoted to regular business and the afternoon meeting will consist of technical and open discussion on matters of interest to the football coaches. The annual banquet presided over by Knute Rockne has been set for 7 P. M. At the banquet the usual Brown Derby story telling contest will be held and high class entertainment will be furnished.

W. A. Alexander of Georgia School of Technology will preside over the various meetings. W. H. Cowell of the University of New Hampshire is the Secretary-Treasurer for 1930. All dues should be paid to him.

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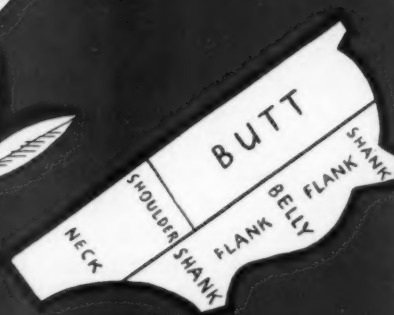
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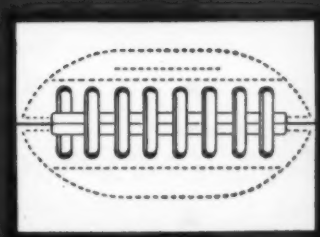
HOW Wilson BUILT THE GAME



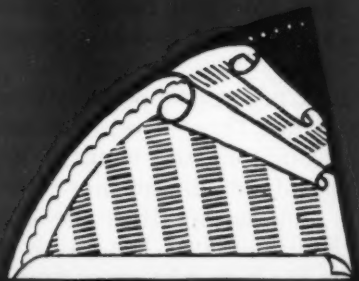
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Volume XI

CHICAGO, ILLINOIS

No. 4

Russell, Northwestern fullback, (in white) being tackled by Schwartz in the Northwestern-Notre Dame game at Evanston, November 22nd.



Underwood & Underwood

Another Football Season

ALTHOUGH a few games are yet to be played, the football season so far as most of the universities, colleges and secondary schools are concerned came to an end Thanksgiving day, and already the thoughts of the coaches are turning toward basketball and other sports. It is well that the football season is not prolonged, as it would be unfortunate if this great game were projected into the other playing seasons, and, further, it is not well to require undergraduates to play an inordinately long schedule.

Volumes have been written about the declining interest in football this year. However, according to newspaper accounts, 80,000 people attended the Stanford-California game Saturday, November 22nd, and approximately the same number saw the old traditional Harvard-Yale game. Approximately 50,000 saw the Northwestern-Notre Dame game and as many more would undoubtedly have witnessed the game if the stadium had been large enough. Large crowds throughout the country witnessed the traditional contests. It is hard to believe that interest in football is dying when on Saturday, November 15th, capacity crowds in all sections of the country attended the games under unfavorable weather conditions and sat

By John L. Griffith

throughout the contests, in some instances, during heavy rain storms.

There were approximately 7,000 secondary school games played on November 22nd before something like seven million spectators, and 500 senior and junior college games played before approximately five million witnesses. In other words, it is safe to guess that twelve million persons paid admission to watch a football contest on the week-end of November 22nd. If this is true, and the writer believes the figures to be conservative, then it is difficult to believe that evidence of a declining interest in football is at hand.

This much stands out, however,

WHAT effect has the business depression had upon football throughout the country? Has interest in the game decreased? How does football publicity this year compare with that of other years? How have styles of offense and defense varied? These and other questions are answered in this resumé of the 1930 football season.

namely, that not every football game appeals to students, alumni, or college friends. The games that have been played over a period of years or the games that for different reasons may have a direct appeal were patronized nearly as well as formerly. Certain other games as in other years have failed to interest any appreciable number of spectators.

A number have called attention to the declining interest in the game so far as the undergraduates are concerned. This lack of interest has not been noticed to any great extent in the universities where student year books are sold to those students who wish to buy them. There has been some falling off in the purchase of year books at some institutions due to the fact that students as well as their fathers and mothers are not spending money so freely this year as they have been spending in the last eight or ten years. Undoubtedly, the business and financial recession has affected the gate receipts to some extent throughout the school and college athletic world. Football, however, has not been affected anywhere nearly so much as have some of our basic industries. The editor suggested in the September JOURNAL that there would probably be some shrinkage in

revenue this year and the results have been as foretold. At the same time, the profits of the game this year compare more than favorably with the average receipts extending over a ten year period.

As suggested elsewhere in this issue of the JOURNAL, in approximately 975 out of 1,000 senior and junior colleges in this country, part of the cost of the physical education, intramural, and interinstitutional athletics is paid out of tax, endowment, and tuition receipts. In other words, physical education and athletic programs are fully financed from gate receipts in only approximately twenty-five universities, colleges and high schools in the United States. The public reads the attendance figures at a few of the larger universities when traditional games are played and erroneously assumes that the educational institutions throughout America are amassing huge sums of money from football. In certain institutions where an attempt has been made to maintain a complete minor sports intercollegiate program, the sports that are not self-sustaining will not be conducted next year. If the athletic receipts generally were to be curtailed materially it is quite clear that the cause of mass athletics would suffer irreparable harm. Certain idealists have been suggesting that our college athletic programs should be supported entirely as the other educational programs have been supported and that spectators should not be permitted to pay for the privilege of witnessing

the games. While it may be that some of the wealthy institutions could find means for financing their physical education and athletic programs on this basis, it is clear that, if this plan were adopted by all of the educational institutions, thousands and thousands of men who are now being given the opportunity of competing against their fellows in other institutions would be denied this opportunity.

Viewing the interest in football from the standpoint of newspaper and magazine publicity, it is probably safe to assume that the newspapers have devoted approximately as much space to the game this year as they did last year. Twenty-five years ago a comparatively small number of universities, however, received the attention of the sports writers. The amount of space devoted to football has increased, but the older universities are not receiving proportionately so much space as was formerly the case. The number of linear inches of space devoted to athletics in one of the older American universities twenty-five years ago was 264½ inches during a two weeks' period that year in a certain metropolitan paper. The mention of athletics in that same institution in a corresponding two weeks' period this year amounted to 112 inches, showing a 175 per cent decrease in newspaper lineage relative to sports in that institution. In the same university twenty-five years ago, 18½ inches of space were devoted to other university matters in that institution and in the corresponding two weeks

this year 173 inches of space were given over to similar non-athletic items; thus the increase in publicity for non-athletic events in that institution is 835 per cent.

It is probably true that the students in the educational institutions today think of a football game as only one of the many attractive incidents on the educational program. People generally have more things to challenge their interest and attention than was formerly the case. The so-called hysteria on the part of the undergraduates exists largely in the minds of the critics. The interest on the part of the undergraduates is for the most part wholesome. They take their victories and defeats philosophically, but the fact remains that they still attend the games. Those who are trying to debunk football so far as the students are concerned are wasting their time.

The attitudes of the players and coaches toward the game, with few exceptions, have further been along the lines of sanity and good sportsmanship. There have been a few instances in which the coaches have carried their combative spirit too far, and the newspapers in these instances have magnified the contentions of those involved. On the whole, however, the players and coaches alike have lost without alibiing their defeats, or won, as the case may be, without gloating over their opponents.

The colleges throughout the country are attempting to solve their recruit-

(Continued on page 40)

(Below.) Musick, University of Southern California, about to be stopped by Valianos in the California-University of Southern California football game.

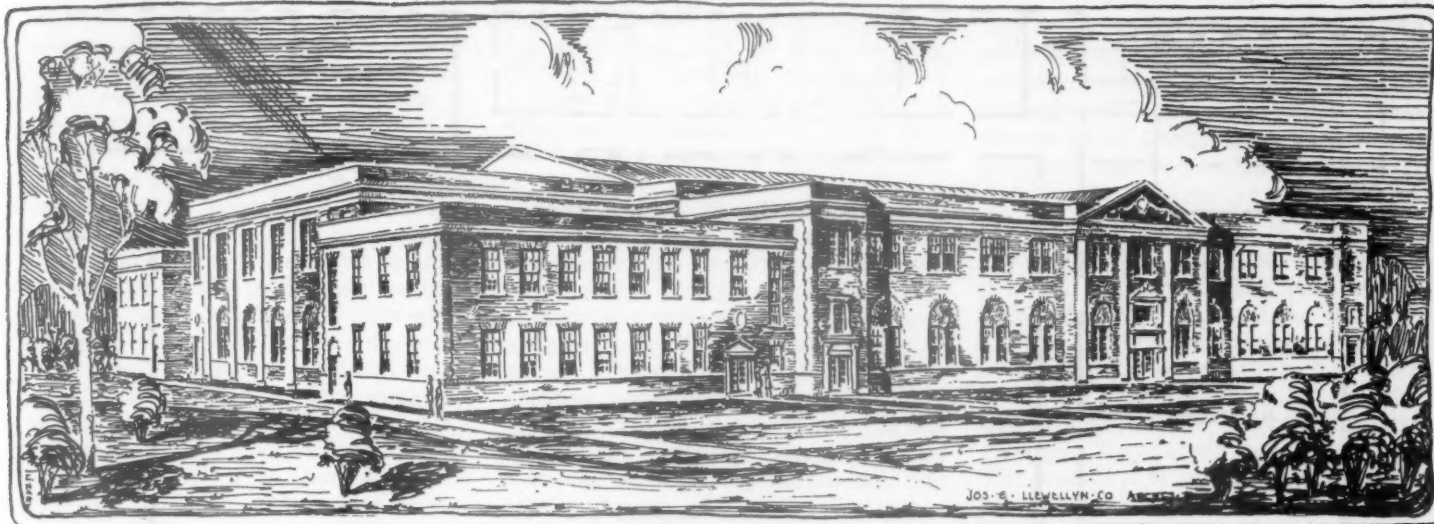


(Below.) Eighty-five thousand football enthusiasts watched the California-University of Southern California game. Photo shows Rinckert of University of Southern California carrying the ball.



(Above.) Musick of the University of Southern California slipping through Stanford's defense line for a substantial gain.





The Merner Gymnasium and Field House, North Central College, Naperville, Illinois

By Gordon Fisher

IN February, 1929, Nichols Hall, the gymnasium of North Central College, was completely destroyed by fire of unknown origin. This catastrophe created an immediate need for the new physical education building which is now nearing completion.

The Merner Gymnasium and Field House has been named in honor of the family of Mrs. Henry (Annie Merner) Pfeiffer. Mrs. Pfeiffer, her husband, Mr. Henry Pfeiffer, and her brother-in-law, Mr. G. A. Pfeiffer, all of New York City, made the building a possibility by contributing approximately one-half of the total cost of the building. This wonderful initial gift was augmented by numerous smaller ones, so that finally many alumni, students, Naperville citizens, faculty members, and other friends of North Central College have taken a part in making possible the building which is now being completed. The total cost of the building, including construction, equipment, and the necessary walks, drives, and grading, will amount approximately to \$360,000.

The outside dimensions of the building are 300 feet by 190 feet, and it is two stories in height. The building is located very conveniently on the Fort Hill Campus of North Central College. It faces north, with the football field and running track directly west, the baseball field and

practice fields on the south, and the girls' athletic field on the east.

As indicated by the name, the building is a combination gymnasium and field house. The committee in charge of the project felt that the old type of board floor gymnasium was inadequate for a modern program of physical education. Illinois weather conditions are such that fully fifty per cent of our physical education program is conducted under a roof, and a combination of dirt and board floors offers, of course, an immeasurably greater opportunity for a varied program of activities.

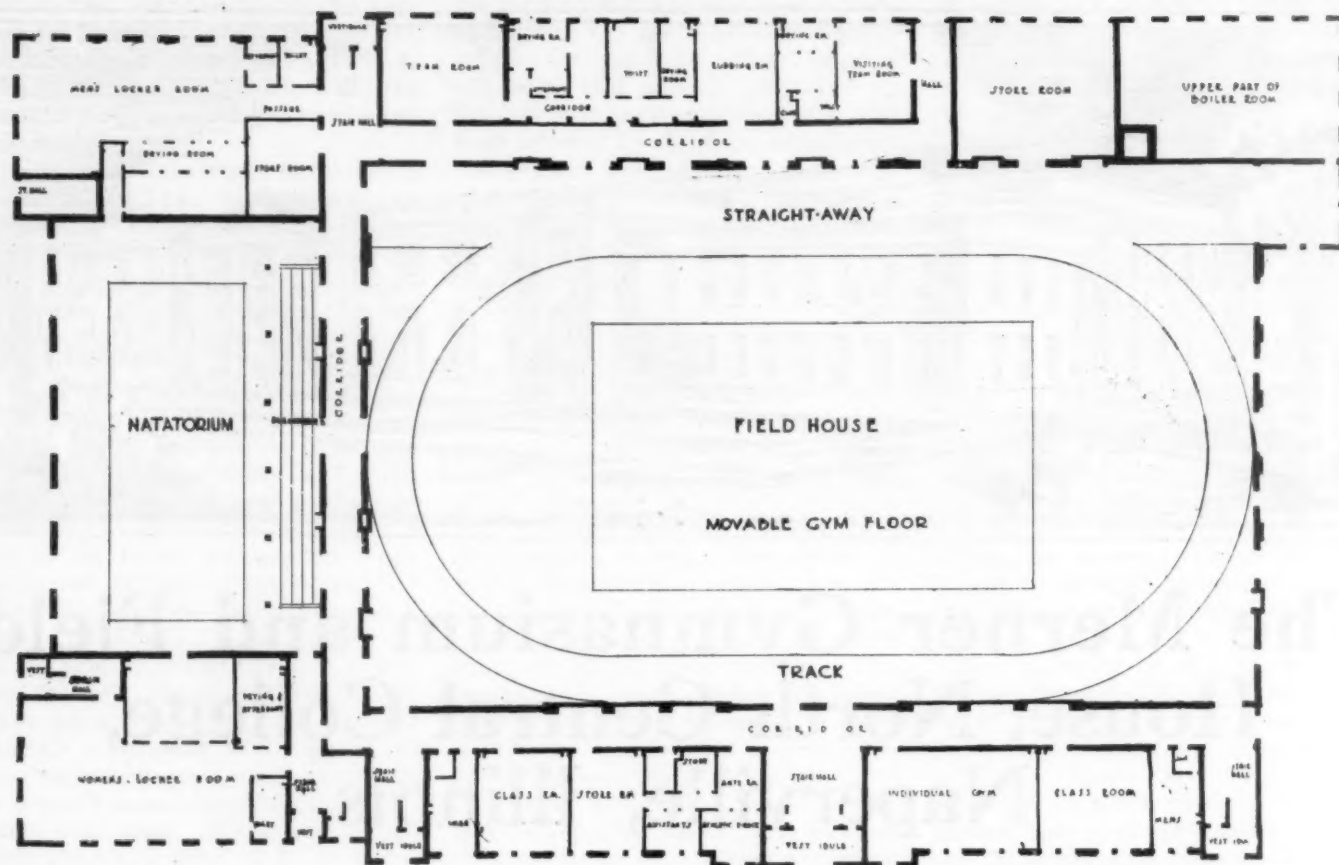
The field house proper is 200 feet long, 155 feet wide, and has a clearance below the trusses of 35 feet. This room is lighted by means of a large skylight and numerous windows on three sides. The field house will be equipped with a portable basketball floor, permanent cinder running track, jumping and vaulting pits, additional dirt space which may be used for numerous purposes such as tennis, volley ball, or baseball, and permanent bleachers to seat 1,400 spectators. These permanent bleachers are placed above the corridor, offices, and class rooms through the full length of the north side of the field house. With this space counted out there is a clear floor area of 200 feet by 120 feet in the field house room. In the event that any tournament or game requires the

installation of extra portable bleachers, it will be possible to enlarge the seating capacity to take care of 4,000 to 5,000 persons.

The basketball floor of the field house will be 110 feet long and 62 feet wide, and its plan of construction will be the same as that of the floor which has proven so satisfactory in the new field house of Indiana University. With the exception of the time during basketball season this floor will be taken up in sections and stored, thereby making the entire dirt floor available for other games such as diamond ball, soccer, football, baseball, etc. A last minute change was made with respect to the position of the portable floor. It is to be placed at the east end of the enclosure inside of the track, rather than directly in the center of this space. In this way the remaining dirt floor may be more easily utilized during the basketball season, as formerly suggested.

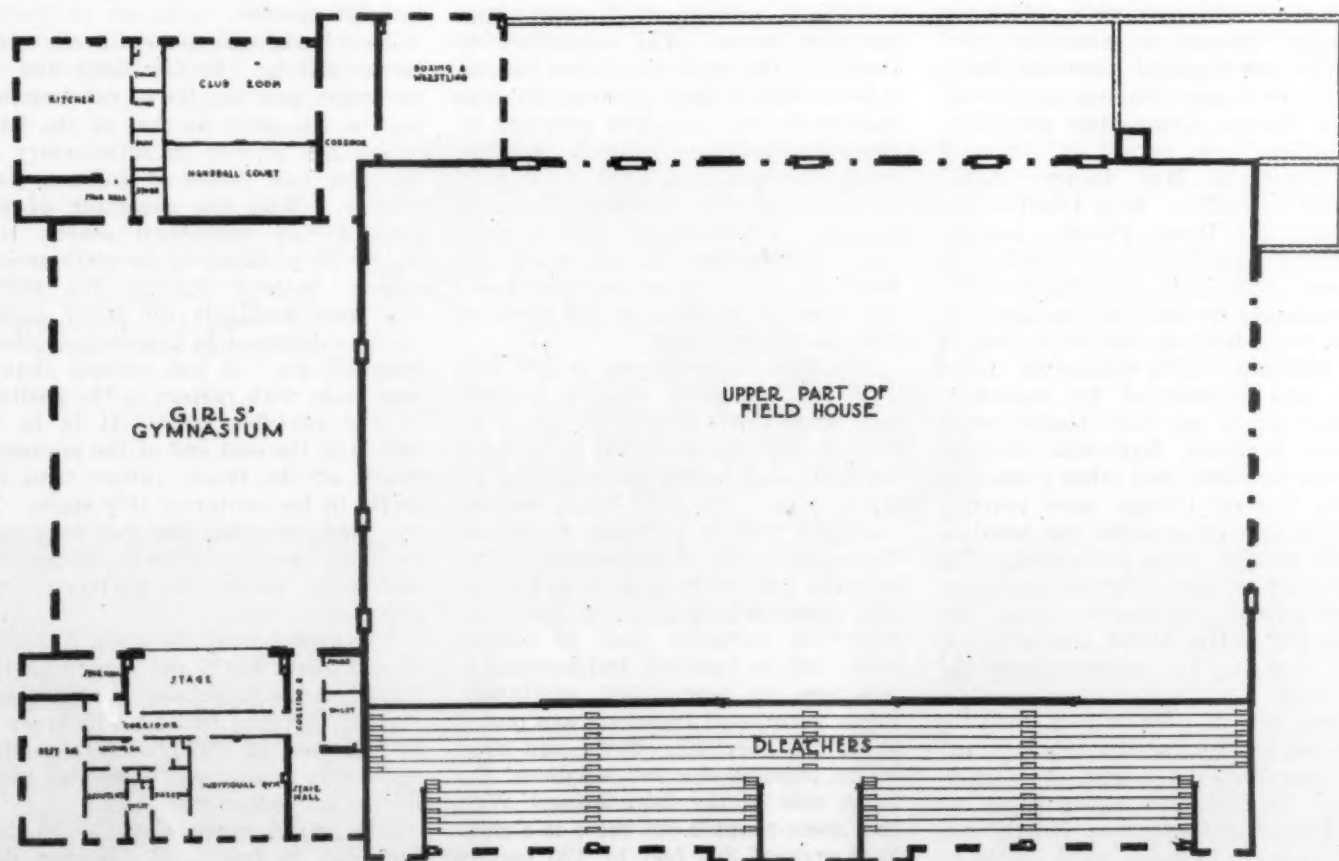
The cinder running track will have a permanent curb, and it will have a sixty yard straightway on the south side of the field house. The track is in full view of the bleachers so that spectators may see complete races during an indoor meet.

The girls' gymnasium is 96 feet long and 68 feet wide. Besides taking care of a large part of the girls' physical education program, this room



FIRST FLOOR PLAN

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 AT NAPEVILLE, ILLINOIS.
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SECOND FLOOR PLAN

ATHLETIC BUILDING FOR JOB NO. 920
 THE NORTH CENTRAL COLLEGE
 AT NAPEVILLE, ILLINOIS.
 JOS. C. LLEWELLYN CO. ARCHITECTS
 CHICAGO, ILLINOIS NOV. 30, 1929

is being equipped to take care of a long felt need in the social life of the college. For this reason a small stage has been placed at one end of the room and a well equipped kitchen at the other end. If handball proves to be as popular as it has in many places it is quite possible that the stage will be utilized as a handball court, and some such use may also be made of the kitchen during times when it is not in use. No permanent seating space is being provided in this gymnasium, but the room is sufficiently wide that portable bleachers may easily be installed as the occasion demands.

The swimming pool will be 75 feet long by 30 feet wide, and 4 feet to 9½ feet in depth. The slope at the shallow end will be very gradual, dropping only six inches in the first 25 feet. In this way it will be possible to utilize the one pool for an entire water program, including instruction work, recreational and competitive swimming. A small permanent balcony to seat approximately 250

persons is being built on the west side of the pool room. Entrance to the pool floor will be possible only through the dressing rooms and a shallow wading pool, at each end. A filter and chlorinator are being provided to insure constance purification of the water.

In addition to the three large units already described, there are the numerous smaller auxiliary rooms and parts which should assure the possibility of a well-rounded program of physical education for many years to come. There are corrective or individual gymnastic rooms for both men and women, class rooms for instructional purposes, offices for men and women instructors, locker and shower rooms for general classes, equipment storage rooms, attendants' store rooms in connection with larger units, laundry room, club rooms for men and women, boiler room with provision for oil heat, boxing and wrestling room, handball court, athletic team rooms, equipment drying room, and training or first aid room.

It is estimated that some ten or twelve groups may be engaging at the same time in some kind of physical activity, none of them in any way interfering with any other group. This should be of tremendous importance, as it will now be possible for students and faculty alike to get regular exercise at a desirable time in the day.

The entire building has been planned primarily from the standpoint of utility. It has been the wish of the building committee to retain beauty so far as possible, but when there has been a question of one giving ground for the other, utility has generally been given precedence. In this respect it is very noticeable that a minimum amount of space has been set aside for foyers, lobbies, corridors, etc.

The architects in charge of the construction of the Merner Gymnasium and Field House are the J. C. Llewellyn Company, of Chicago, and the general contractors are the A. & E. Anderson Company, also of Chicago.

Defense Against Stalling

By R. H. "Bob" Hager

Supervisor of Physical Education, Tacoma Public Schools, Tacoma, Washington

THE stalling game in basketball is an outgrowth of defensive play, although usually charged against the offense. The tight, man-for-man defense which covered the entire floor prevailed in the early days of basketball. This, of course, called for a great deal of lost motion and in many cases was a dangerous method, especially when used by slow men trying to cover fast ones. The lead a fast man gains on a slow man when they run the length of the floor is considerably greater than when they run just half the distance. Teams finally figured this out and began covering just half the court.

Territory defense then grew into favor and we had all five men forming a close network around the opponents' basket.

This huddle type of play proved very effective, especially against a team which depended on close-in shots. It was soon learned, however, that this type of defense did not force the play in the back court; so teams started the practice of holding the ball in the back court after they had obtained a comfortable lead. This of course made it necessary for the defense to break their huddle and come out after the ball or be satisfied to trail behind in the score. It takes two to make a quarrel and it also

takes two to make a stall. The offense could not stall unless the defense did.

When the stalling game was new it was very disconcerting. Teams would drop back on the defense, wait and watch, and wait some more; then one by one the players would attempt to break it up. Many teams did not know how to make their zone defense work against the stalling game, and, since their men were not trained in man-for-man defense, they made a pitiful attempt to break it up.

Some coaches who have been the "big brothers" to zone defense would refuse to break up their defensive formation and a ridiculous situation was the result. Many funny stories are told of the stalling combats of defense and offense, each laying the blame on the other for stalling.

In a game a few years ago between my team at Oregon State College and a neighborhood rival, in which our opponents were the underdogs, a situation came up which bordered on burlesque. Our opponents were employing a five-man concentrated defense under the basket, which was stopping our scoring on close-in shots. We had scored on several shots over their heads and had about a 10 point lead. At this point I sent in a substitute pivot man, with instructions to draw the defense out. The pivot man held

the ball in mid-court and our opponents stayed under the basket. The opposing players started coming out, but their coach motioned them back. Both teams waited; finally the pivot man laid the ball on the floor and told one of the side men to watch it. Then the pivot man went down to visit with the boys on the defense. Some of the opponents were from his home town; so they talked over old times. Several times individuals started to come out after the ball, but their coach motioned them back. Finally, all of my team went back and sat down by the ball; then the defensive team sat down. The managers, to help the situation, threw the sweat shirts out and the players put them on. The band rose to the occasion and made everybody else stand up by playing the "Star Spangled Banner." The half ended with our team still 10 points ahead.

If we had been willing to start the second half the same way I believe that our opponents would have stubbornly stuck it out in a sitting position on the floor. It had ceased to be funny, however, and I instructed my men to play the second half for the spectators' sake. Our opponents had chafed under the fun that had been made of the situation and played a wild ragged game the second half.

Personally, I regretted the incident because the coach was a friend of mine and it was embarrassing to him. His procedure was not logical, but I had no desire to expose him in this regard.

If your team is behind and the other team starts the stalling game you must come out and force the play. You do not have two guesses in this situation; you must come out and cover the opponents wherever they are on the court. This must be a team action. The stalling game of a clever team is never broken up by one or two players or by three or even four; it must be a five-man affair. No matter what your defensive system has been, zone, duplex or haphazard, it must now become a tight man-for-

man, where each player covers an opponent, and it must cover the entire court.

One common mistake made in this matter is that only the guard against the man with the ball guards closely. To be effective, each man must cover his man so as to destroy an outlet for the man with the ball.

Cover these men immediately as the ball goes into the possession of the opponent. It will be natural to drop back to your usual defensive position and then come out to cover. This loses time and is just playing into the hands of the stalling team. It takes an exceptional team to stall under these circumstances, a team so clever, in fact, that they should have their opponents so far outclassed that the

stalling game is unnecessary. This type of defense against the stalling game is greatly aided by the new rule, which permits the referee to call a held ball if a player in possession of the ball in the back court makes no attempt to put the ball in play.

Stalling with the ball in the closing minutes of a game when you have a five- or six-point lead is legitimate strategy, but if you have a 10 point lead or better, you owe it to the game to continue your normal offensive efforts. If you are on the defense and the opponents are leading and they start stalling you have no reason ethical, strategic or otherwise, to remain in a state of dormancy in a defensive huddle.

Offensive and Defensive Basketball

Diagrams and descriptions of 1929-30 basketball plays, many of which will again be used this year

Basketball as Played in the Southwest

By Chas. "Chuck" Bassett

Basketball Coach,
University of Arkansas

BASKETBALL as played in the Southwest Conference during the season of 1929-30 would compare favorably with basketball in other sections of the country. The Conference, as a whole, provided the most equally balanced competition in years. The second division teams were stronger and in all games the leaders were pressed hard to win.

The increased popularity of basketball in the Conference was due to the change of a majority of the teams from a zone defense to a retreating

man-to-man defense, this change becoming necessary to combat the delayed offense.

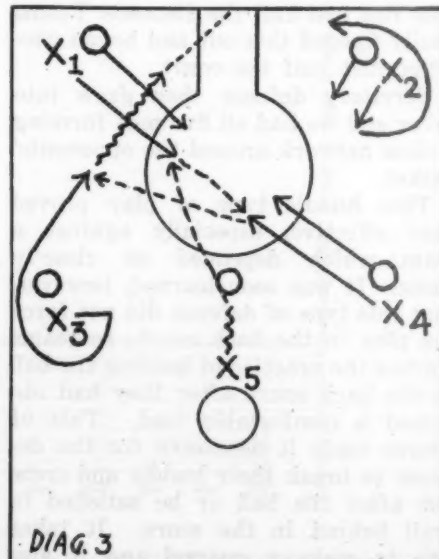
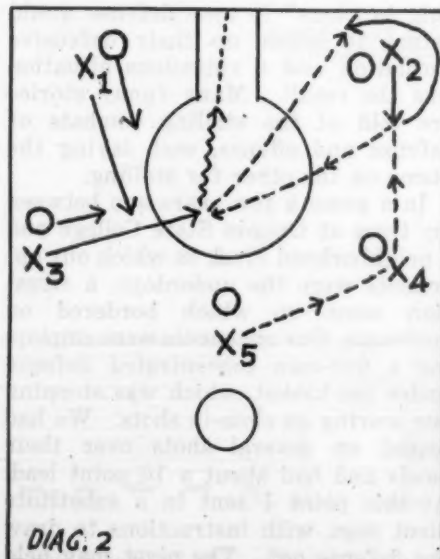
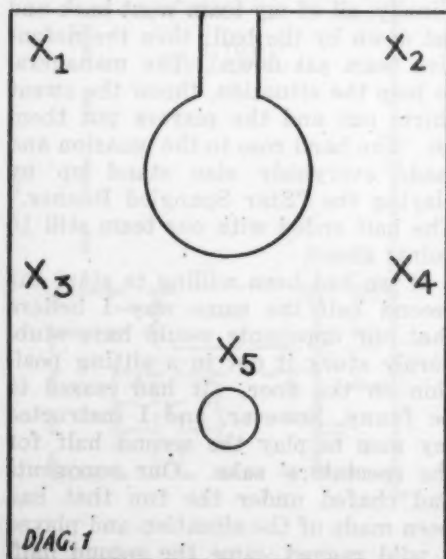
The University of Arkansas, winners of the Conference championship for the fifth consecutive time, used an offensive formation shown in Diagram 1, sending four men in the scoring zone and the fifth man bringing the ball down the floor slowly. From this formation, plays as shown in Diagrams 2, 3, and 4 were used to work the ball in for close or open shots.

In Diagram 2, No. 5 passes the ball to No. 4, who in turn passes to No. 2, who has advanced to meet the pass. No. 2 then passes with a bounce pass to No. 3 man, who, either with a fast start or a block by No. 1 and his guard, has broken into the open for a shot or a re-pass to No. 2.

In Diagram 3, No. 5 brings the ball down the floor slowly and passes in to No. 1, who breaks fast across the floor. No. 1 passes to No. 4, who then passes to No. 3 breaking in for a basket after feinting to get a start on his guard.

In Diagram 4, No. 5 passes to No. 1, who breaks out fast. No. 1 then hook passes to No. 2, who, with a feint and fast forward pivot, has gained a step on his guard, or passes to No. 4, who is a fair long-shot man.

Fred Walker at the University of Texas depended upon a fast breaking offense with a big man following under the basket for rebound shots. Diagram 5 shows a favorite play. No. 5 and No. 4 bring the ball down the floor as fast as possible. No. 3 breaks down one side of the floor and crosses



under the basket for a possible rebound shot or an outlet pass if No. 1 is covered too closely. No. 2, who is a good shot, is on the side of the floor and is used for an outlet pass for No. 1. No. 1 receives a pass from No. 4, feigns to return the pass, then pivots in the opposite direction to shoot or leaps into the air and turns to shoot. The No. 1 man in this play last year was six feet two inches tall and was a good shot. Texas Christian University used a similar attack but their break down the floor was slower.

Southern Methodist University used a slow breaking attack, speeding up when in the offensive zone. One of their plays is shown in Diagram 6. No. 1 crosses under the basket and passes very close to No. 2, who is crossing in the opposite direction, and who blocks No. 1's guard. Then there follows a quick pass from either No. 3 or No. 4 to No. 1, who has been freed of his guard. No. 1 uses a hook shot for a basket.

The play of S. M. U.'s in Diagram 7 is one of the few in which they use more than three men in their offense. No. 1 breaks out for a pass at the center of the foul circle. No. 4 passes to No. 1; then follows quickly for a return pass. This is not a blocking play but depends on the speed of the No. 4 man to get ahead of his guard.

Baylor University built their offense around their six foot four inch center. All of their plays started with a pass to this tall man under the basket as shown in Diagrams 8 and 9. No. 4 brings the ball up to the offensive zone by a slow dribble, and passes to No. 3 coming out from the side line. No. 3 passes to No. 1 and follows fast for a repass.

In Diagram 9 is shown a variation of Baylor's repassing play. No. 5 comes up the floor with a slow dribble.

No. 1 breaks out to meet the pass. After passing, No. 5 cuts in, following his pass; No. 1 feints the ball to No. 5 but actually passes to No. 3 who has cut across the floor behind No. 5. No. 3 then either passes to

No. 2 or dribbles in for a close-up shot.

Baylor's offense was built primarily from their tip-off formation, their center being the best jumper in the Conference and able to control the tip-off. A few of the plays from tip-off are shown by Diagrams 10, 11, 12 and 13.

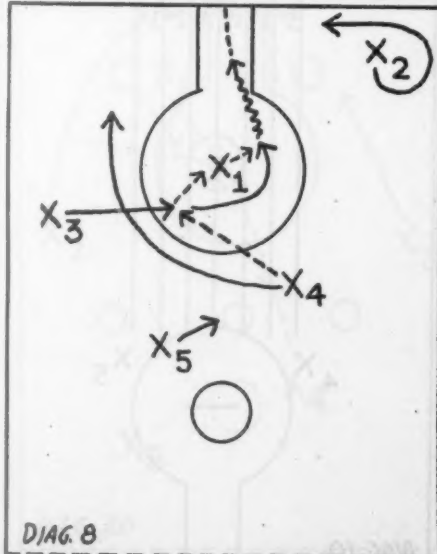
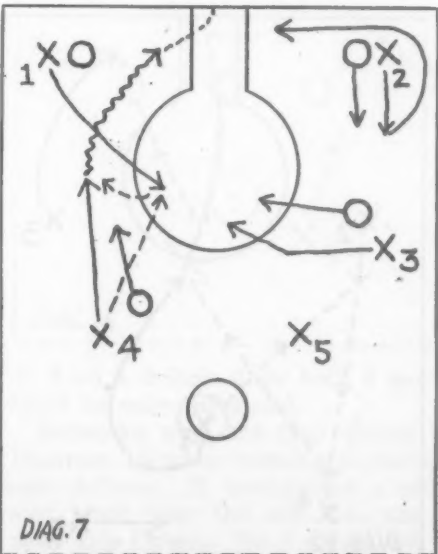
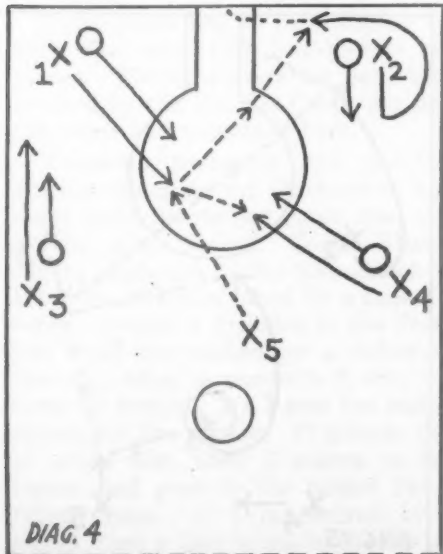
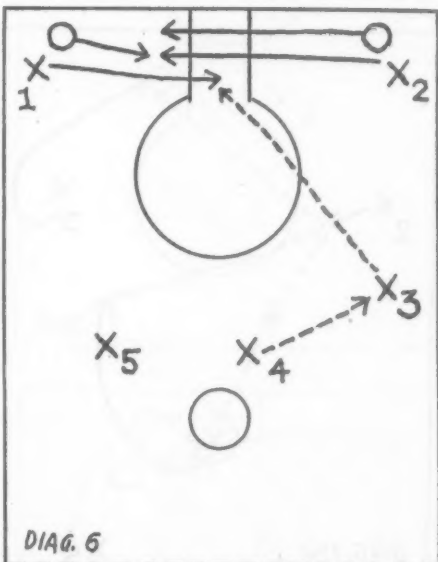
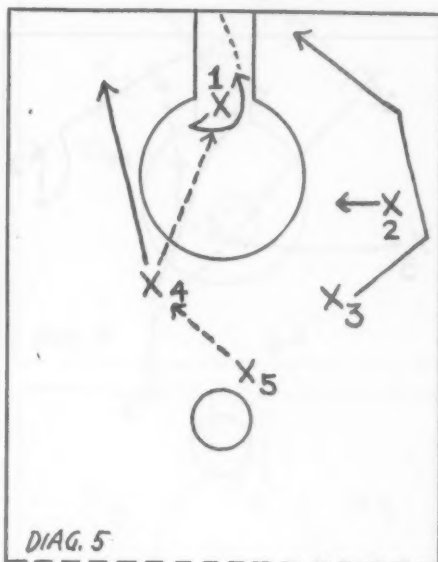
Diagram 10 shows the ordinary balanced tip-off formation. It differs from the usual in that the forwards and guards play extremely far from center. The man designated to receive the tip starts fast, but instead of coming in to the first or second tipping lane, receives the ball always out in the third lane or at approximately the same distance from center in front or in rear of the jumping circle.

Diagram 11 shows Baylor's favorite play. No. 1 tips the ball to No. 2, who either repasses to No. 1, the center, or in most cases to No. 3, an extremely fast forward, who is cutting for the basket.

The play in Diagram 12 works to either side. No. 1 tips the ball to No. 2, who goes high in the air and push passes to No. 4, who immediately passes to No. 1. No. 1 either dribbles in for the basket or passes to No. 3.

In Diagram 13, No. 1 tips the ball to No. 5, who receives the ball high, out in the third tipping lane. No. 5 push passes to No. 3. No. 3 then either passes to No. 1 or hook passes to No. 2 cutting for the basket.

Rice Institute used a good tip-off play shown in Diagram 14. This is a combination of short and long passes. No. 1 tips the ball to No. 2, who goes high in the air and push passes the ball back to No. 1. No. 1 then uses a baseball pass to No. 5, who has gone down the side line cutting over to the basket. No. 3, cuts across the floor



for a pass from No. 5 or to follow for a rebound.

Southern Methodist University, out-jumped at center constantly, adopted a tip-off formation as shown in Diagram 15. The forwards and guards crowded the center circle, either blocking the opponents out or being able to get the ball themselves. This was especially successful against teams whose tip-offs went into the first or second tipping lane.

The formation on defense in the Conference differs from the standard 3-2 formation. When the teams drop back to their defensive positions a 2-3 formation is taken by all teams except Texas Christian University, which still uses the shifting zone defense as shown in Diagram 16. When the ball comes down the side (left in this case) the team shifts to meet it. No. 1 plays directly in front of the ball; No. 2 shifts to his right and slightly back. No. 3 also shifts to his right and still further back than No. 2, protecting the center of the formation. The right guard, No. 4, shifts forward and toward the side line; No. 5, the left guard, shifts directly in front of the basket. Now, if the ball were to be passed to the opposite side of the court the shifting of the team would be reversed. With the ball coming down the center, No. 2 man plays the ball with No. 1 and No. 3 men dropping back and slightly towards the middle, while the guards remain in their original positions. Texas Christian

shifted rapidly, and with a team of tall men proved to be effective, especially so, on a narrow floor. This formation was discarded for the man-to-man style on a large floor. The other Conference teams used a 2-3

formation, as shown in Diagram 17.

Southern Methodist University differed from the rest of the teams using this formation, by playing the three back men in a zone defense while the No. 1 and No. 2 men hurried the ball around the center circle, trying to make the offensive team start their plays too early or too far out from the basket. The rest of the Conference, that is, the University of Texas, Rice Institute, Baylor, Texas A. & M. and Arkansas assumed their defensive formation but played the man-for-man style, assuming that at least three offensive men would come into the scoring zone, leaving the two front men, No. 1 and No. 2, to pick up the last two men coming down and to prevent long shots. This formation on defense seemed to be extremely effective against the delayed attack where set plays were used.

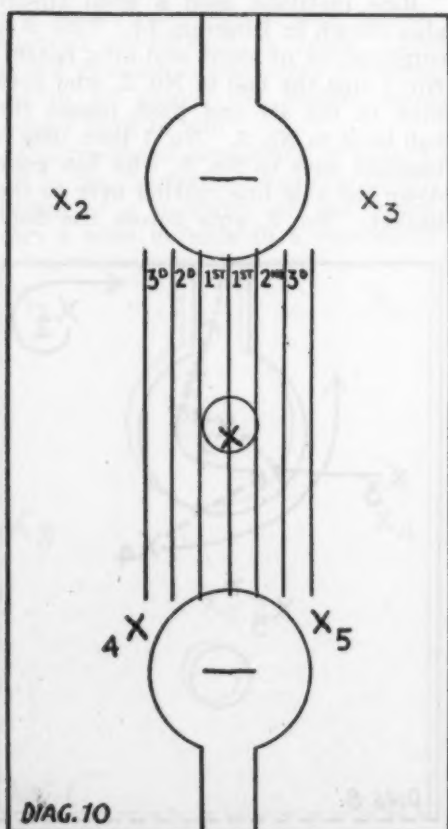
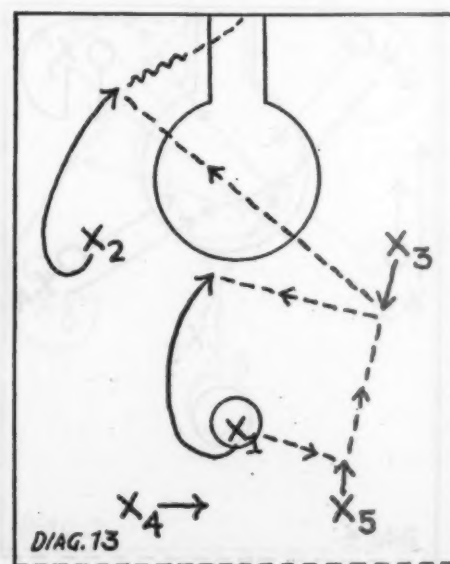
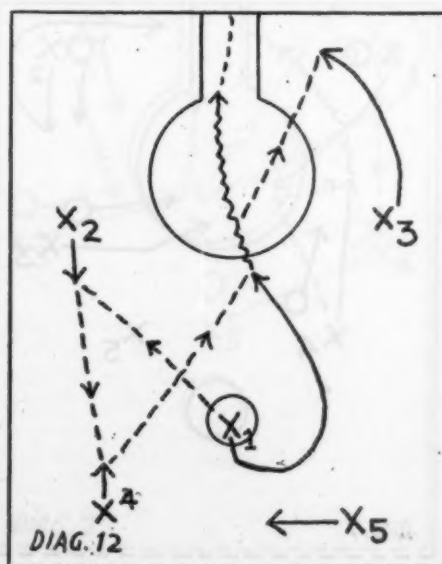
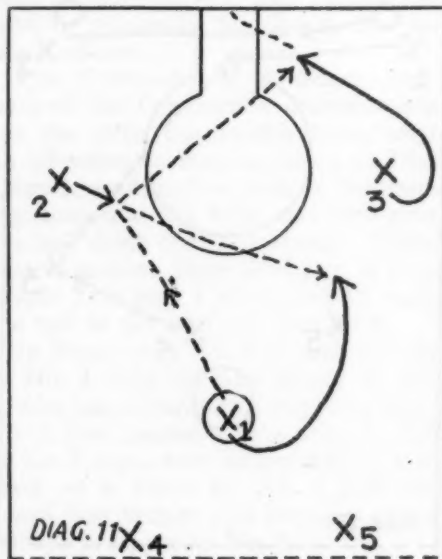
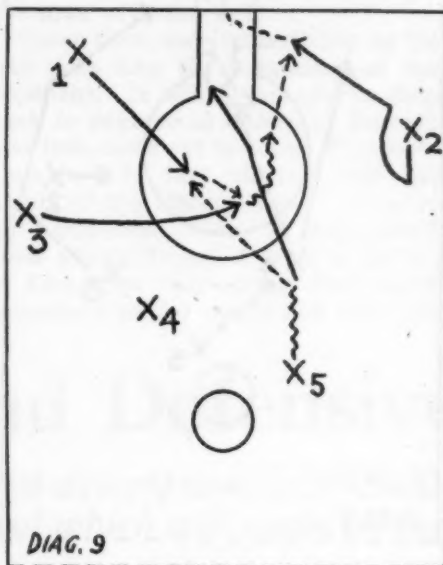
Basketball in the Missouri Valley

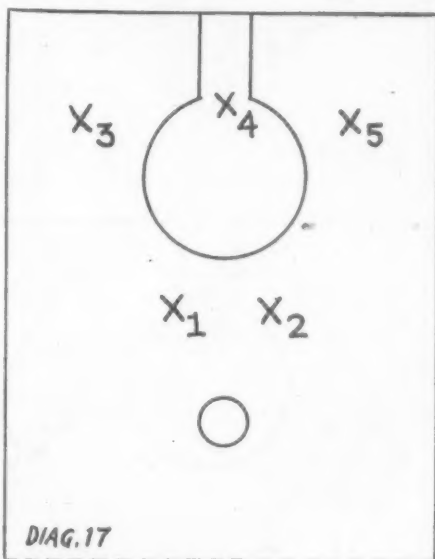
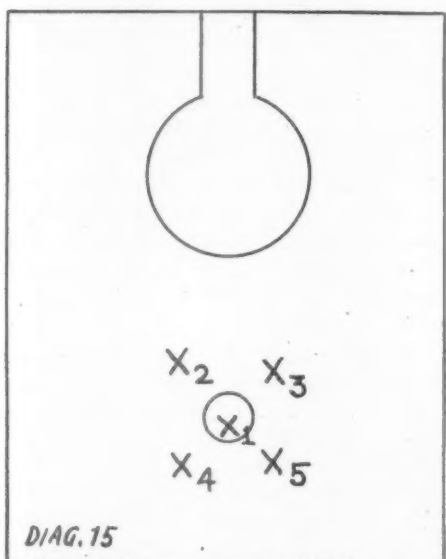
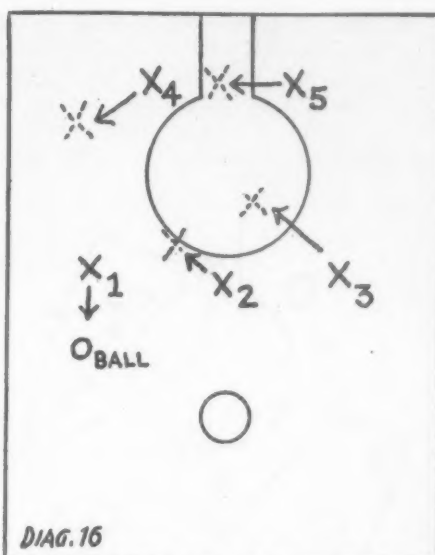
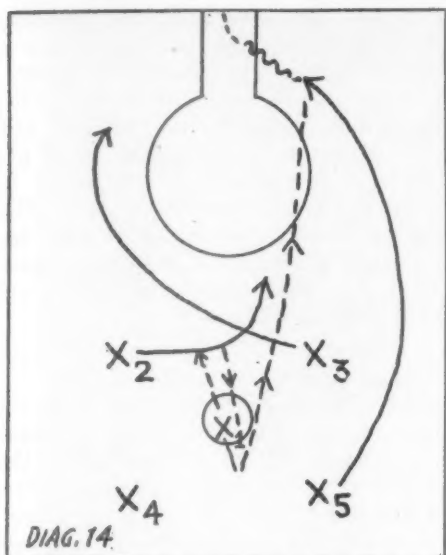
By George R. Edwards

Coach of Basketball,
University of Missouri

THE 1930 basketball season showed that the Big Six teams are rapidly dropping the zone defense with three men in the front line, a feature of the play of this section for nearly a decade. Kansas retained a type of zone with three men in the rear line. Nebraska, Iowa State, and Oklahoma used zone defenses part of the time under special conditions, but also were equipped with a man-to-man type. They used one or the other, according to which caused opponents the more grief. Missouri retained a man-to-man defense at all times in all games.

Facing a variety of defenses, teams were required to develop plays that

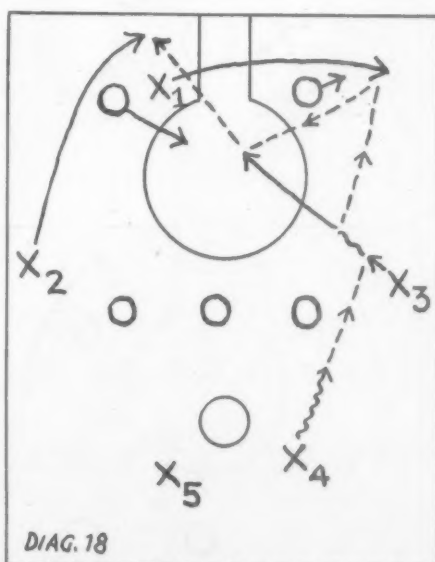




would score on each type. For this purpose, the fast break in attempts to reach a scoring position before the defense formed showed a decline over former years. While action was continuous, teams seemed to favor a little more deliberate scheme in which definite plays were attempted.

These plays had to be designed for both the zone and man-to-man defenses. Favorite plays for each type as used by the Big Six teams are diagrammed and explained here.

Nebraska possessed the greatest scoring punch in the Conference, and made more points per game than any of the other teams. Coach Black's cagers made use of the play shown in Diagram 18 when faced by a zone defense. Guard 4 dribbles to the front line until approached by a defensive forward, when he passes to 3, who has come up behind. As 3 gets the ball, 1 drives for the corner. If guards fail to cover him, then 3 passes to the corner and goes to the basket for a return pass. If 1 is covered by a guard, then a fast break to the basket



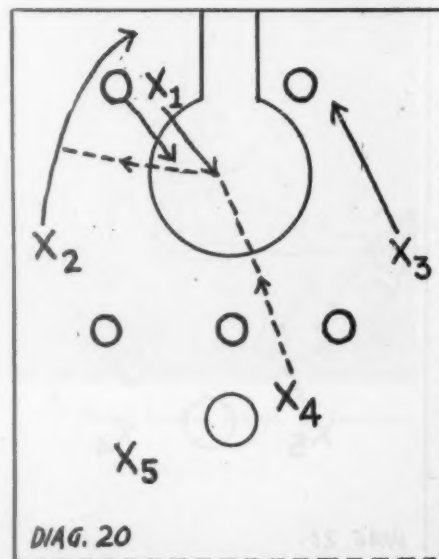
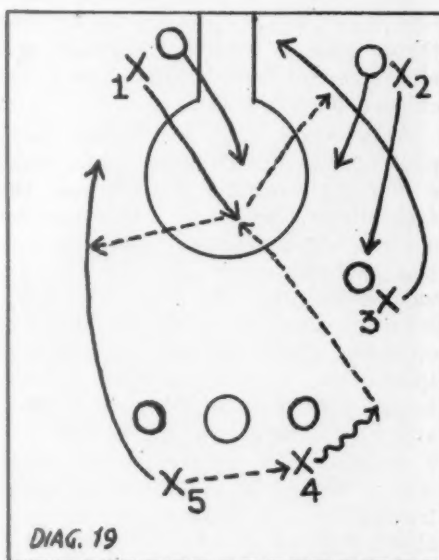
by 3 on a dribble finds both 2 and 3 faced by only one guard.

Nebraska used the play shown in Diagram 19 when meeting a man-to-man defense. It incorporates a collision block near the side line and a weak side threat. No. 1 drives out to

receive a pass from 4. At the same time, 2 goes up the side line to a point behind the guard of 3. As his team mate comes from the rear, 3 pivots around his guard and drives for the basket. His guard is forced into a collision with 2, and 3 is open for a pass from 1. While play is on one side of the court, guard 5 watches for chances to slip down the weak side ahead of his opponent.

Next to Nebraska, the Missouri team, winners of the Big Six championship, were the heaviest scorers. The play shown in Diagram 20 was used against zone defenses. The guard, No. 4, attempts to out-manuever the opposing front line center and passes to 1, who drives to the free throw line for the ball. The guard of 1 must cover him or a shot is possible. No. 2 breaks for a pass through the front line and receives the ball from 1 if the guard has left his position open.

Against a man-to-man defense, Missouri employed a play shown in Diagram 21. The guard, No. 5, drives



his defensive opponent toward mid-court by a dribble; then passes down the side line to 2. The guard, No. 5, follows his pass down the side line and may receive a return pass if he gets past his defensive opponent. Usually 2 passes to the free throw circle to 1 and cuts around his team mate for a return pass. No. 1 has the choice of a return pass to 2, or he may fake a pass and pivot in the opposite direction for a scoring attempt, or he may pass to 3, who has cut in from the side line.

Iowa State enjoyed a spectacular success against zone defenses by using the passes shown in Diagram 22. Rapid and accurate handling of the ball is required. Guard 5 pulls out the defensive forward and passes behind him to 2, who threatens by a short dribble until the defense has shifted to keep him from shooting. The shifts are designated by arrows. Two fast passes follow this threat. The first goes to guard 4, who snaps a pass to 3. Properly executed, these maneuvers leave only one guard to cover both 3 and 1. No. 1 darts either to the side line or to the free throw line to decoy the guard and either permit 3 to dribble in or to receive a pass himself.

Iowa State uses a collision block play as shown in Diagram 23 to shake a dribbler loose for a shot near the free throw line when pitted against a man-to-man defense. Guard 5 dribbles and passes to 2, who has advanced down the side line. No. 5 follows his pass, carrying his defensive opponent along with him by threatening to cut to the inside of 2 for a return pass. Instead, however, 5 stops and forces the guard of 2 to collide as 2 dribbles into the free throw circle. No. 1 moves out a little from under the basket and stops to permit 2 to shoot over his head.

Kansas is primarily a long shooting team against any kind of defense, but does not hesitate to use timed plays when quick passes result in short shots. The play illustrated in Diagram 24 is designed for the zone

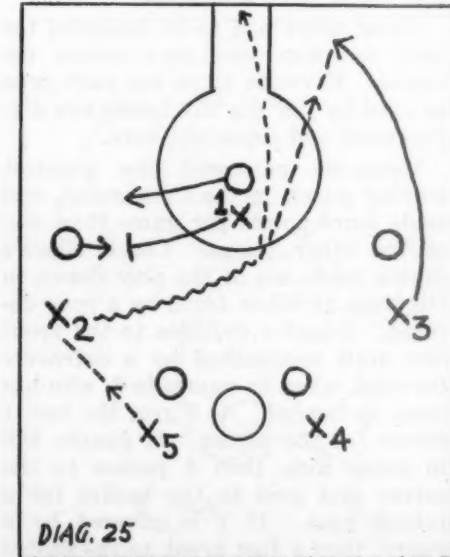
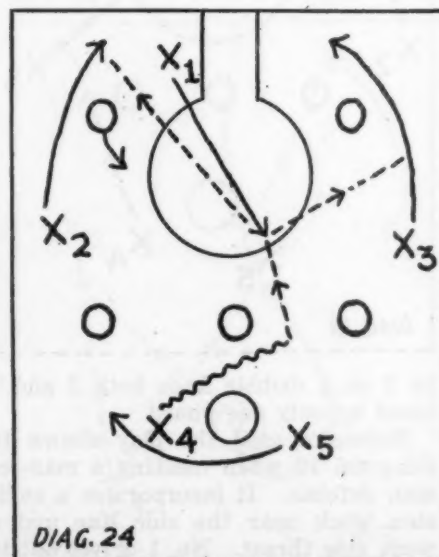
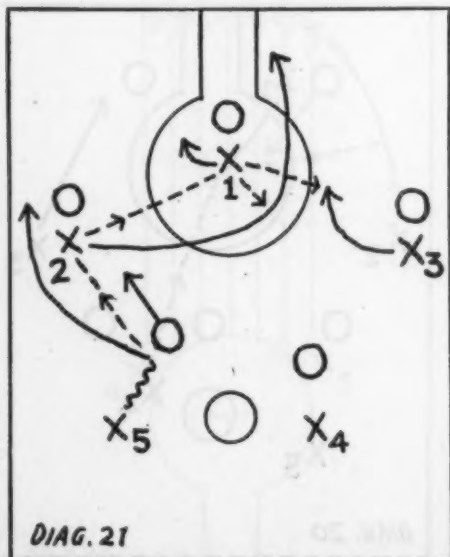
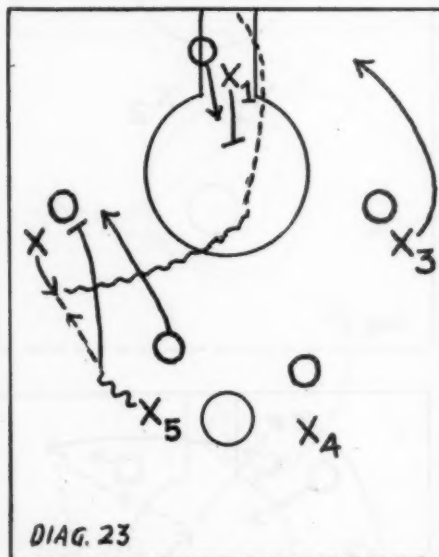
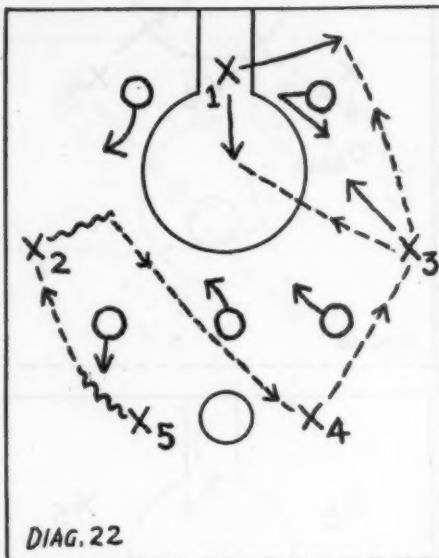
defense. The two guards criss-cross in front of the defense with either a dribble or short passes. Normally, this is followed by a long shot with three men trying for the rebound, but if a defensive man fails to cover his position, the guard, No. 4 passes to 1 coming from near the basket. The two forwards, 3 and 2, break for shooting positions to receive a pass from 1. Passes used are two-hand to 3 or hook pass to 2.

Against a man-to-man defense Kansas utilizes a collision play as shown in Diagram 25. No. 1 drifts toward the side line and stops near the guard of 2. Necessarily, the guard of 1 must follow the move. No. 5 passes to 2, who drives toward mid-floor for a shot near the free throw circle or a pass to 3, who cuts down the side line for a shot or rebound.

Against a zone defense Kansas State Agricultural College incorporates a guard threat to create an opening, as illustrated in Diagram 26. Guard 4 passes to forward 3, who has cut across behind the front line. No. 4 drives in on the play and decoys a defensive guard toward the side line. No. 2 passes behind No. 4, receives the ball from 3 and dribbles in for a shot or a pass to 1.

When faced by a man-to-man defense the Kansas Aggies again use a guard as the principal threat, as shown in Diagram 27. After passing maneuvers between the two guards, 5 cuts down the side line. He eludes the defensive man by a collision block staged by 3. Then 1 decoys his man to mid-court to leave 5 an open lane for dribbling.

Possession of the ball on tips at center is considered the first objective among Big Six teams, but scoring plays are used the instant a defense



(Continued on page 16)

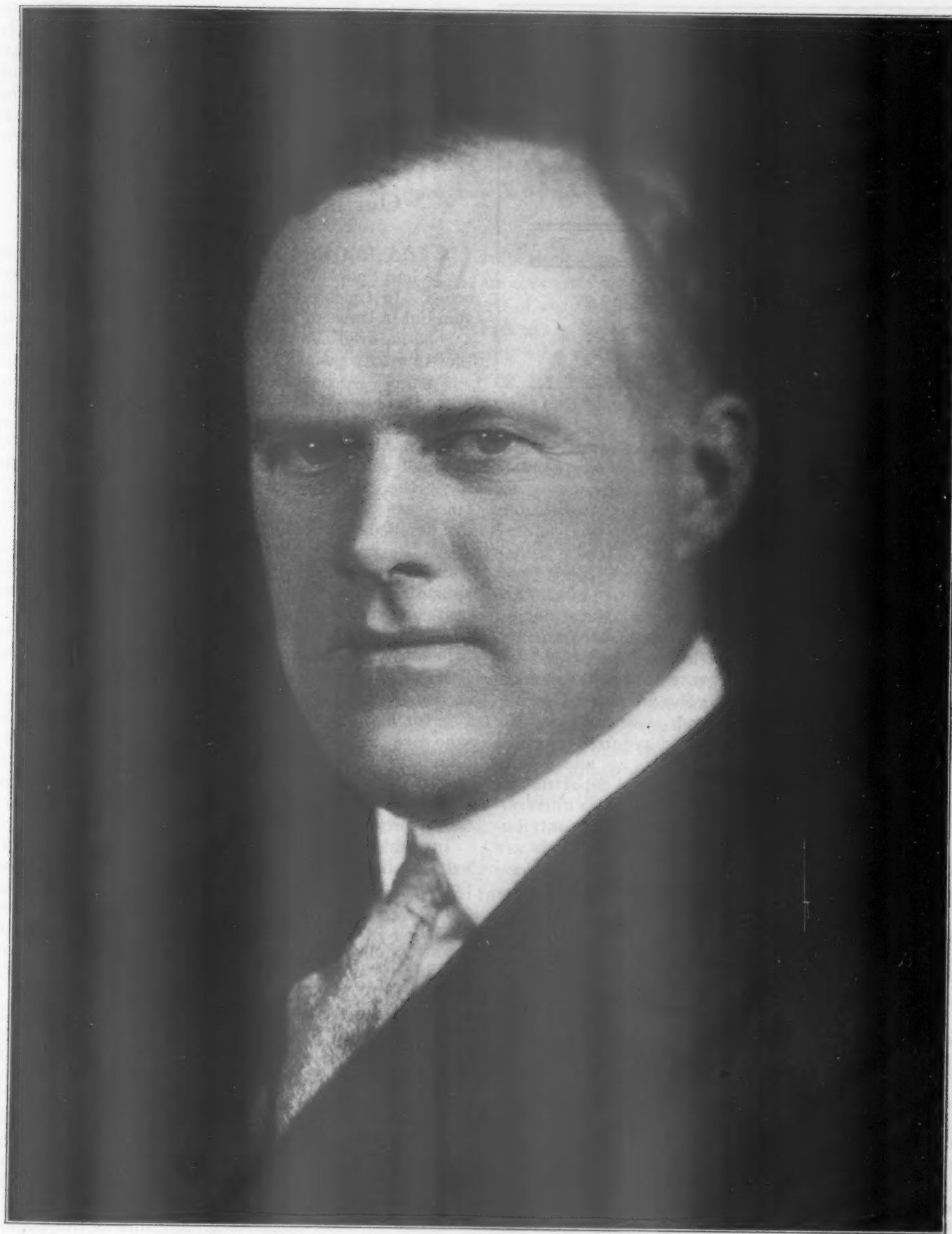


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JOHN L. GRIFFITH, Editor

Charity Games

IT is commonly believed that the colleges and universities are making fabulous sums of money from football and that the profits are not being wisely expended. There are approximately 1,000 institutions of learning above high school grade in this country and scarcely more than twenty-five of these senior and junior colleges are realizing enough profit from their athletic contests to enable them to pay the annual running expenses of their physical education and intramural and intercollegiate athletic departments. It has been the common practice for boards of trustees and state boards of regents to use the income from athletic games, first, for the purpose of financing intercollegiate athletics, and, second, to pay for the upkeep of the intramural and required physical work programs. Where such income is not adequate to meet the expenses of all of the physical departments, then some of the costs are assumed by the universities and colleges and are paid from tuitions, contributions, or tax assessments. In a few cases funds are solicited from the friends of athletics and these receipts are used to defray the deficits.

In most of the approximately twenty-five colleges and universities in which the returns are sufficient to pay the cost of the various departments there are indebtednesses which must be met. Some of the more wealthy athletic associations will this year be able to carry their running expenses, pay the interest on their loans and still have a surplus to apply on their debt.

It is clear that if athletic receipts were not available for the financing of the various physical education departments the work would of necessity need to be curtailed, discontinued or the cost burden carried by the donors or taxpayers. The colleges and universities are not maintained for profit and very, very few of them could exist if they depended solely on the tuition fees paid by students. This means, then, that the institutions of higher learning in America are dependent upon charity or upon the generosity of the taxpayers whose money is disbursed by the legislative appropriations committees.

Under the circumstances it is difficult to understand why, in this crisis which exists now of general un-

employment throughout the country, the public, the politicians, and the newspapers should turn first to the educational institutions for assistance in the matter of raising money for charity. On the other hand, it is encouraging to know that the presidents of the various colleges and universities which in the last analysis subsist on charity have been more than sympathetic to the requests for aid.

Our Attitude Toward Law Enforcement

WILL ROGERS once said that the United States had "never lost a war nor won a peace conference." In times of stress we rise nobly to the occasion but in times of peace we go our several ways with a good-natured complacency that is characteristic of the American people.

Further, we have a blind faith that we can cure our ailments by legislation, but we are more concerned with passing laws than we are in seeing that the laws are properly executed. Our attitude toward baseball umpires is well known. These men, who have the responsibility of enforcing the baseball rules, are damned if they do enforce them and they are damned if they don't.

At the present time, the colleges throughout the country are attempting to solve the recruiting and subsidizing problem. Consequently, the newspapers quite generally are suggesting that football is in a bad way. Rather, they should be rejoicing that the college men are courageously attempting to rid athletics of an evil that most certainly exists.

The great majority of the American colleges advertise for and recruit students. Some of the students who are contacted by accredited field agents and alumni are athletes. Whether an athlete is legitimately recruited or not, if he is contacted by a representative of an athletic association there is always the suspicion that he is illegitimately recruited.

In most, if not all, of the colleges and universities, help has been provided for such students as may need financial assistance. An athlete should be entitled to apply for help from the college committees whose duty it is to aid students in securing employment and grant scholarships and loans. Such help, however, should not be given on the basis of an applicant's athletic ability.

Trouble always ensues when employment bureaus, scholarship and loan fund committees are created to serve athletes as a class. What is needed first is an understanding of the meaning of illegitimate and legitimate recruiting and subsidizing of athletes.

In spite of the turmoil that ensues when the colleges turn their attention to these matters, college athletics will be benefited as a result of the efforts of the various collegiate groups to conduct football on a non-paid player basis.

Those who are suggesting that this is the beginning of the end, basing their prediction on the attempts now being made to adopt recruiting and subsidizing rules and to enforce the same, see but "through a glass darkly." If the colleges were supinely to evade the issue, then indeed the future of football would be in doubt.

Christmas

SOME men conform to the contemplative type of individuals. The deep students, those engaged in research work, the philosophers and poets are for the most part men of contemplation. The designs for the world's great buildings, including the bridges, skyscrapers and art palaces, are planned by students who are able to conjure up a mental picture of the structure to be erected and then with infinite pains are able to draw the plans for that structure.

The man who directs the erection of the building, however, is usually an executive. He puts into effect the plans that have been drawn by others. He is a man of action. Achievement is his goal. Athletes as a rule conform more closely to the executive type than to the contemplative type of men. In this respect, they are like unto the men who direct the battles. It is theirs to cut through to the objective, to surmount obstacles and to attain the desired result.

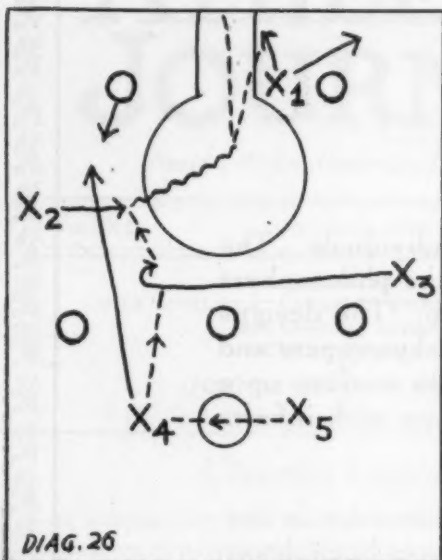
THE football coaches who succeed are more often executives than men of contemplation. They must have clear ideas, of course, of the things that they would accomplish, but, after all, football technique has become more or less standardized. Following the football season the coaches, however, have an opportunity to give themselves over to contemplation. They may look back and review their mistakes, note wherein their efforts succeeded, and thus be the better enabled to plan for the future.

The football coach must not only be able to evaluate his own offensive and defensive strength, but, further, he must be something of a philosopher. If he takes the game too seriously he will ultimately impair his efficiency. If he does not take the game seriously enough he will be worsted by better technicians. If he is affected unduly by the criticisms of the populace, he will, undoubtedly, sooner or later lose faith in his own judgment. If he wins and listens too attentively to the plaudits of his followers, he is bound to allow himself to become convinced that he is a man of miracles, and thus later he will find that his miracles are of no avail.

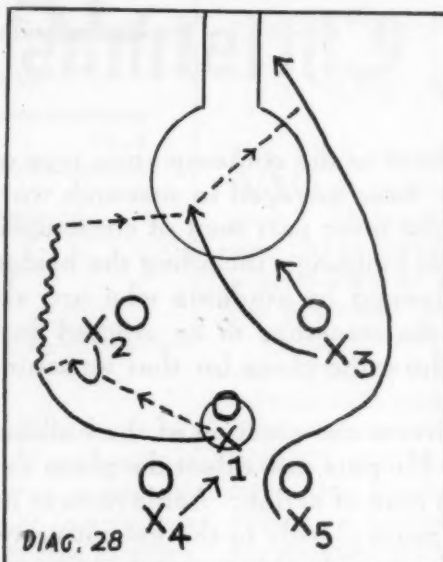
AT Christmas time it is well for every man who has coached a football team this fall to resolve to keep his balance, to rely on his own judgment and not to be influenced unduly by self-appointed critics. The JOURNAL extends to all of the coaches at this time the heartiest felicitations of the holiday season.

Offensive and Defensive Basketball

(Continued from page 12)



the outside. No. 3 relays the ball to 1 under the basket.



Basketball Styles in the Big Ten

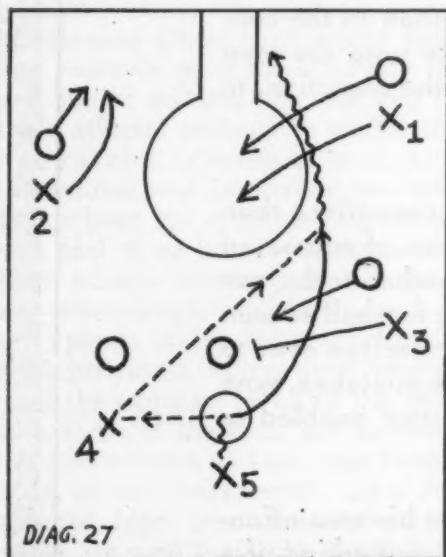
By Ward Lambert

Basketball Coach, Purdue University

IN preparing this brief discussion of the various styles of offensive and defensive team play employed by basketball teams of the Western Conference, an effort has been made to give an insight into the characteristic styles of play of the various teams rather than to divulge any trade secrets of the coaches.

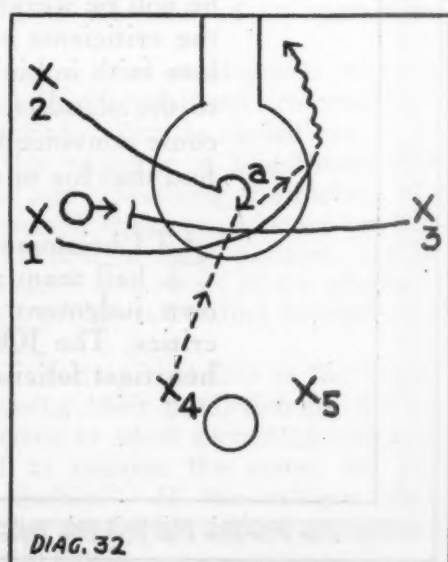
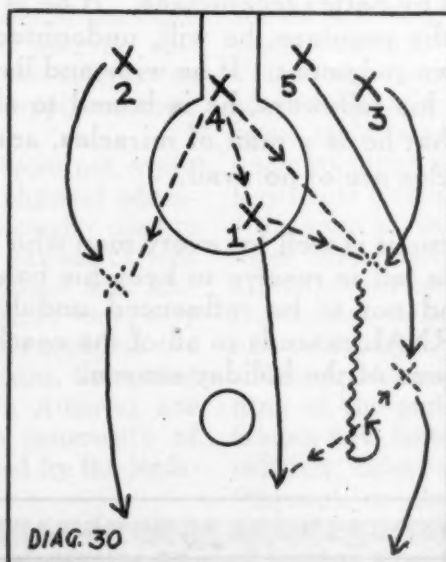
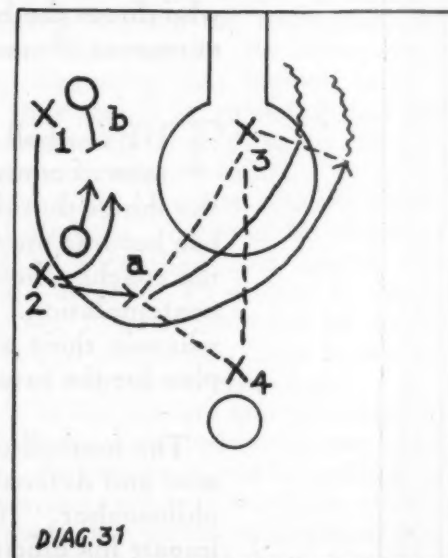
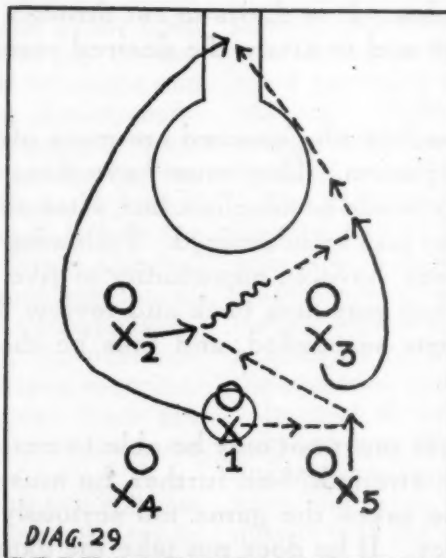
In the early stages, offensive systems of basketball were advanced no further than the idea of working the ball up the floor by a series of short passes, and defenses had advanced no further than the man-to-man idea.

As a result of the man-to-man defense, blocking systems of offense have developed, and, in turn, zone defensive



is out of position or sluggish. When able to control the tip, Oklahoma is a constant scoring threat on every jump at center. Two of the plays used are shown in Diagrams 28 and 29. The play in Diagram 28 is designed for a fast scoring guard. The tip is sent to forward 2, who return passes to the center. No. 3 cuts to mid-court, receives a pass from 1 and sends the ball in to the guard, 5, who has faked toward center and then raced down the side line.

The play in Diagram 29 gives a fast center a scoring opportunity when control of the center tip is certain. The tip is sent to guard 5, and the jumper goes out the opposite side of the center circle and cuts for the basket. No. 2 drives to mid-court for a pass from 5 and then snap passes to 3, who has faked a drive toward the center and has followed by a pivot to



Why the AA can't go wrong

MANY coaches know to their sorrow that often an ordinary basketball will go wrong soon after its first appearance on the courts.

Its shape may change a trifle. A slight bulge may distort its cover. Or it may develop an elusive 'dead spot.'

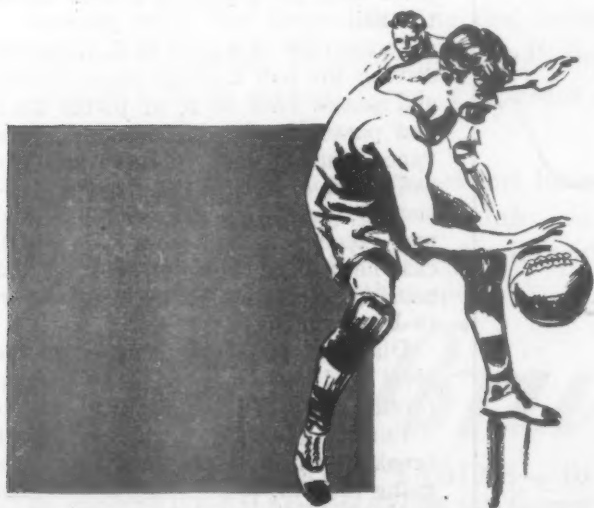
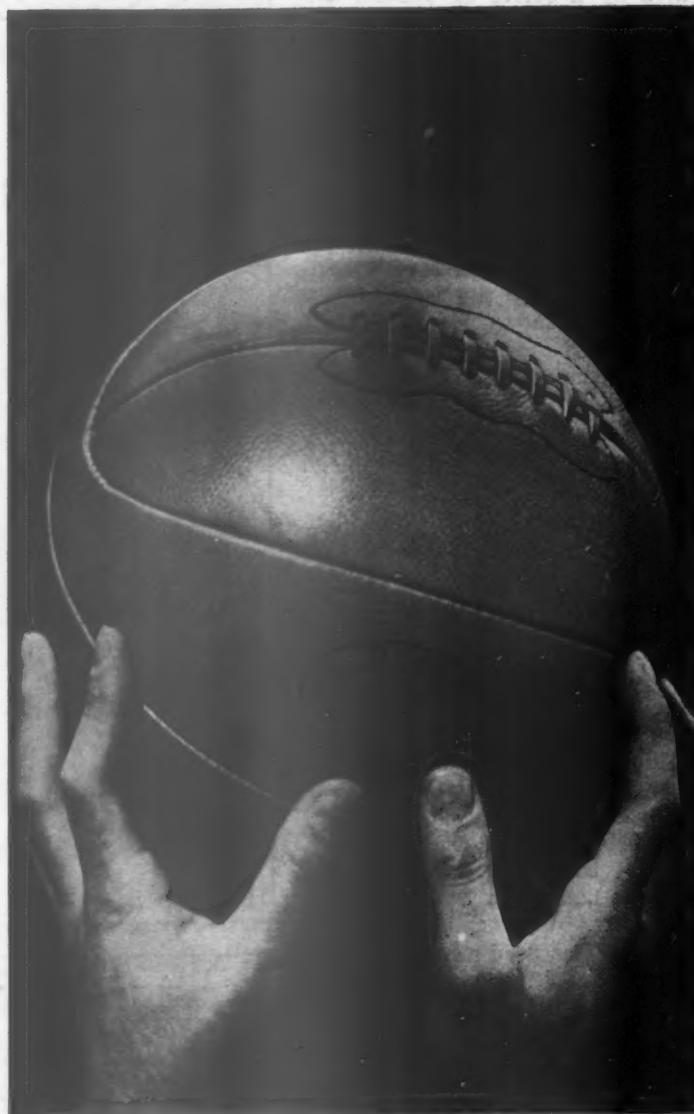
Such a basketball can trip up the smoothest running court machine—can make it go completely wrong!

For when a ball sprouts any of these common faults, it makes passing, dribbling and shooting inaccurate and undependable. It gives a team a mighty tough handicap to fight. And you certainly don't want *your* team so handicapped!

The AA—the Reach Official Basketball—is the one ball that *can't* go wrong. It gives your players every chance to show the best that's in them. For the Reach Double Lining holds the AA Ball in correct shape as long as it's played. No bulges—no 'dead spots'!

See that *your* team plays this most accurate of basketballs—the ball that can't go wrong. Give your players the AA Reach Official Double Lined Basketball! Get it at your nearest Reach dealer's.

Your Reach dealer can also show you other splendid Reach Basketballs—some priced as low as \$4.50. And Reach equipment for every other sport, too. Remember—an athlete can have no finer equipment than that marked 'Reach'!



REACH BASKETBALLS

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systems have been developed to combat blocking offenses.

Fast-breaking styles have been checked by mass defensive ideas, but on the other hand, set and spread formations, combined with the intelligent use of the dribble, combat the mass defensive systems.

In the Western Conference, various ideas of offense and defense are used at the present time, and an effort has been made to analyze the various styles of play in the accompanying diagrams and explanations. In all of the diagrams, the path of the ball is indicated by a series of dashes, the path of the player by an unbroken line, and the dribble by a wavy line.

Chicago frequently uses a fast-breaking offense (see Diagram 30). In this diagram, it is presumed that, on the rebound, 4 gets the ball. He is open to pass to either 1, 2 or 3, but, for the purposes of this illustration, it is supposed that he passes the ball to 1, who in turn passes to 3. No. 3 dribbles fast down the floor, with 1 and 2 driving in to form what is known as a three-man parallel or lane offense. If 3 is stopped, he turns and passes to 5, a trailer, or to 1. If the pass goes to 1, the trailer, No. 5, carries on for 3 in the drive for the basket.

Chicago has also used a set formation with a slow break in advancing the ball under the basket (see Diagram 31). In this slow-break formation, the pass from 4 may go to 2 at "a." No. 2 in turn passes to 3 and then cuts in front of 3, where a block may occur, and 2 dribbles under the basket. In another variation of this formation, the pass may go from 3 to 4, while 2 pivots and moves toward position "b," with 1 cutting directly behind 2; so that the man guarding 1 is blocked, allowing 1 to receive the ball from 3 and dribble to the basket.

Ohio State has used a blocking play (see Diagram 32), with 4 and 5 bringing the ball up court, and 4 passing to 2 at point "a" just after 3 has gone by point "a," running toward 1. The guard of 1 is blocked by 3, and 1 takes a pass from 2 and dribbles for the basket. The positions of 1, 2 and 3 may vary on either side of the floor and corner. Another variation of the same formation is shown in Diagram 33.

Northwestern has employed a fast break similar to that used by Chicago, as already shown, combined with a set formation on slow breaks (see Diagram 34). On this set formation, 4 may pass to 3, as shown by line "a," and then cut directly in front of 3 to block off 3's guard. Then 3 is free to dribble, or he may pass to 2 and

again receive the ball. However, 3 may choose to pass to 1, who meets the ball and dribbles in, or stops and passes back to 3, who dribbles in. In another variation, a pass "b" from 4 may go to 2, who pivots and passes

to either 3 or 1, cutting in front of him to receive a pass and shoot or dribble in. There is always the possibility that 2 may also fake a pass, pivot and dribble in, or shoot.

The Michigan set formation has differed from the Northwestern attack in that the guard, 4, cuts on the outside and 3 passes back to him. The guard, 4, then dribbles in, or fakes and pivots and passes to 2 or 3 driving in.

Michigan has also used a set formation, such as that shown in Diagram 35. In this formation, 1 is in a position to break and meet a pass from 4 and then dribble for the basket. If he is stopped, he pivots and passes to 3, cutting and meeting the ball. Player 2 might cut in front of 1 at the foul line or back of him. If, however, 2 breaks out to take pass "b" from 4, and player 1 stands still, the guard of 2 may be blocked by 1 and 1's guard.

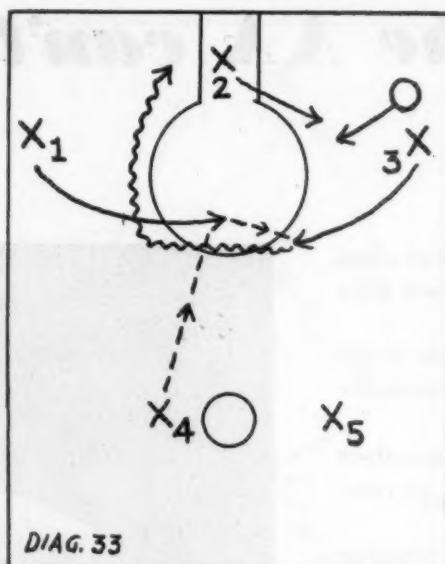
Minnesota has often employed a fast break, with the ball from the rebound being passed out to about the middle of the floor ahead of one of the forwards, who takes the pass. The forwards break down the sides of the floor parallel, and the center breaks down the middle, forming a three-man parallel fast break. However, if the ball comes up slowly, these men go in to the end line and the style is then shifted to one of meeting the ball with passing back and forth, with the general idea of receiving passes for short shots by cutting and timing passes.

Indiana, Illinois, Wisconsin and Iowa have all used about the same set formation with an occasional fast break. Pivots and bounce passes predominate in this type of set formation, with blocks resulting from the pivots, as illustrated in Diagram 36. The advance of the ball starts with a pass from 4 to 3, and the latter may pivot and pass back to 4, who dribbles in, or 3 may fake a pass to 4 and pivot back for a pass to 2, who meets the ball.

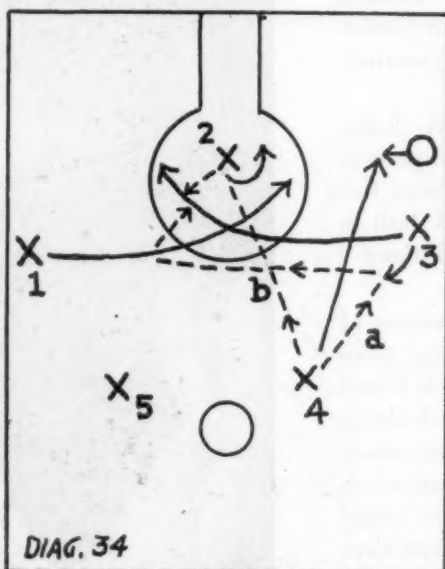
In the case of a pass to 2: after receiving the ball 2 either stops, pivots and passes back to 3, or pivots back and passes to 4, who checks his advance when 3 does not give him the ball. Player 1, who may be in position 1', breaks to the foul line and may receive the ball from 3, in which case he has the choice of pivoting and passing to either 3, 2 or 4, as shown in Diagram 37.

Diagram 38 shows how a double pivot and pass may be used in this formation, with 1 eventually shooting.

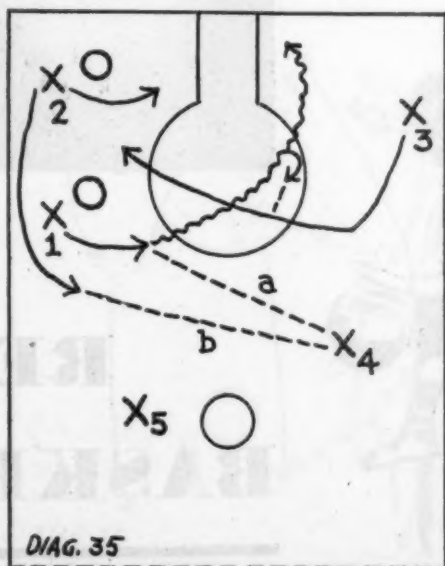
Purdue generally advocates a fast break, the ball on the first long pass going to a tall center or to a fast man in the front line of defense. The fast



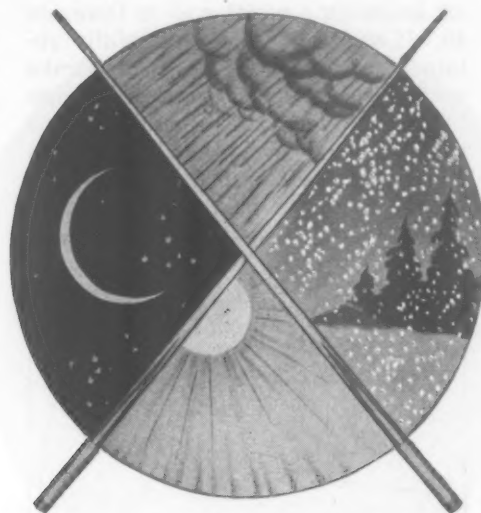
DIAG. 33



DIAG. 34



DIAG. 35



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break is a combination of the long pass and dribble with crossing by the forwards. This set formation is not varied a great deal in position, as timing is emphasized rather than blocking, as illustrated in Diagram 39.

The offensive drive generally starts with a high pass "a" to the center, 1, who meets the ball. Player 4, the original passer, may drive in to receive a pass back, or 2 or 3 may drive across to receive a pass from 1, as shown by 2 in the diagram. However, either 2 or 3 may fake out and reverse to receive a pass from 1, as illustrated by 3 in the diagram. As another variation, a pass may go to 2 who passes back to 4 on the outside.

As a general rule, it might be said that practically all of the teams using set formations employ signals to determine the variation of the formation that is to be used.

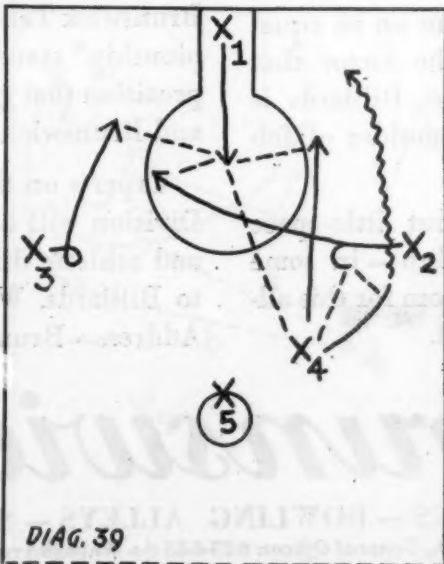
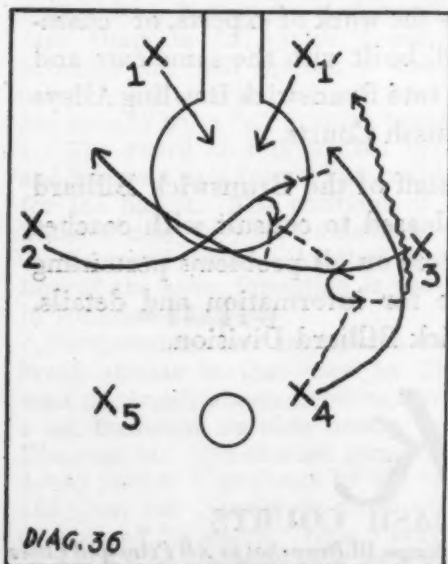
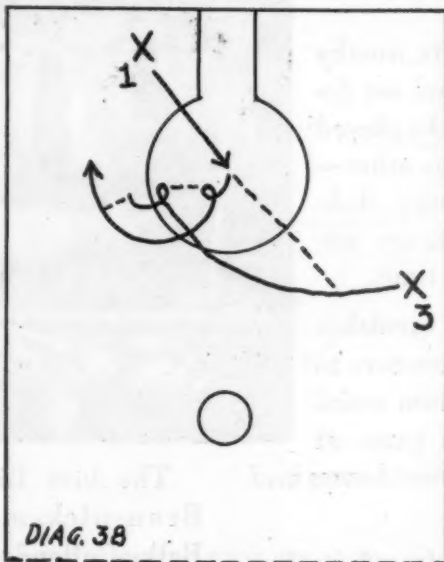
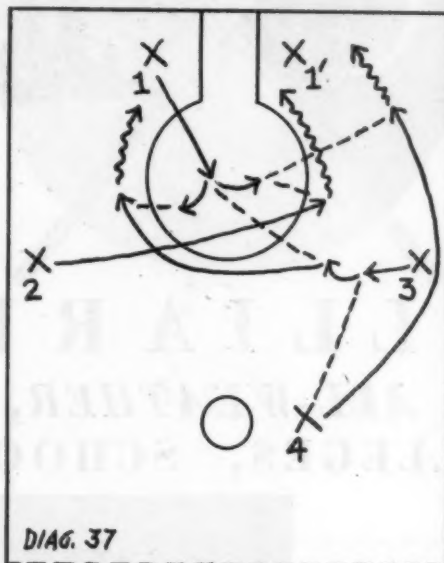
Types of Play in the Missouri Valley Conference

By A. A. Schabinger
Athletic Director, Creighton University

THE Missouri Valley Conference is composed of Washington University, Drake University, Grinnell College, Oklahoma A. & M. College and Creighton University. The types of basketball played during 1929-30 were probably as many different kinds as the number of institutions forming the Conference.

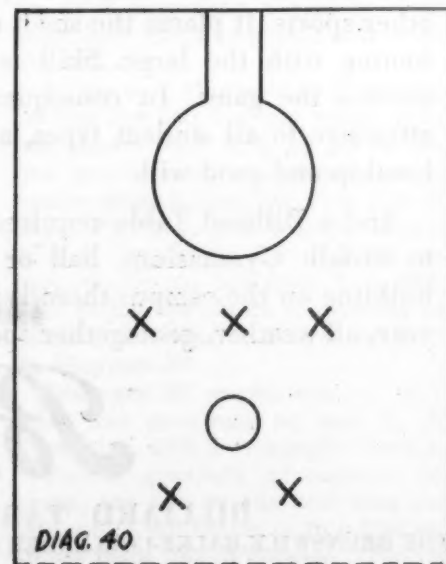
Drake University, coached by W. G. Boelter, had a varied attack and defense changing as the season progressed due to the different personnel of the team from a defensive-offensive team to an offensive-defensive team. At the beginning of the year, Drake had a short center; they conceded the ball to the opponents at the beginning of the game, at each tip-

off assuming a position as in Diagram 40. If the opponents successfully obtained possession of the ball, Drake would drop from a five-man defense to a man-to-man defense and continue this defense until the basket was made or missed or until Drake gained possession of the ball.



About the middle of the season, Coach Boelter developed a center capable of controlling the tip at center against most teams and changed the position of his men, playing the forwards deeper into his own territory as in Diagram 41. After losing possession of the ball without scoring, Drake would assume a five-man defensive position as in Diagram 42. The opponents, advancing the ball down the court, were allowed to send two men through the defense for the guards to take; the third man through would be taken by the forward or center so designated for that purpose, leaving the two forwards or one forward and a center to guard the opposing team's guards as they came down the court, as in Diagram 43. After taking possession of the ball again from a defensive position and facing a five-man defense, Drake would place a forward in each corner, the center behind the center and the guards bringing the ball from the back court as in Diagram 44. From this position they could floor-pass the ball to the center; he in turn could pass to an incoming guard or to a forward, who would break in to the basket or to a forward breaking away from the basket for an intermediate shot.

Washington University, coached by Don S. White, assumed a position at the beginning of the game and at every tip-off from center as shown in Diagram 40. Where they controlled the tip, they had quick scoring plays such as from forward to forward. When no direct results were obtained from the tip-off play and Washington still retained possession of the ball and were facing a five-man defense, they would play a forward in each corner and a center a yard from the basket almost beneath it. As the guards brought the ball up the floor they would break straight from their





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positions to an intermediate position, giving the guards an opportunity to pass to any one of the three men who in turn would pass to another man breaking for the basket or dribble in for a shot. Many times when the defense was well set and would prevent a pass in from a guard, the guards would shoot from their positions, leaving the two forwards in excellent positions to follow the shot.

Grinnell College, coached by John C. Truesdale, had perhaps the smallest team in size in the Conference. Necessarily, their position was one of defense, of playing well back to enable them to face the opponents who controlled the ball from the center tip. Immediately following the tip, they played a man-to-man defense, fighting for possession of the ball. After obtaining possession and facing a five-man defense, as in Diagram 42, they would advance the ball to the center of the floor, at which time the two forwards would break for the corners and the center for the key position behind the opposing center, leaving the guards to pass in to the center or forwards, who would break down the court and break back to their original positions. They also developed plays when against a man-to-man defense where the opponents might automatically get in each other's way in their attempts to guard the man with the ball.

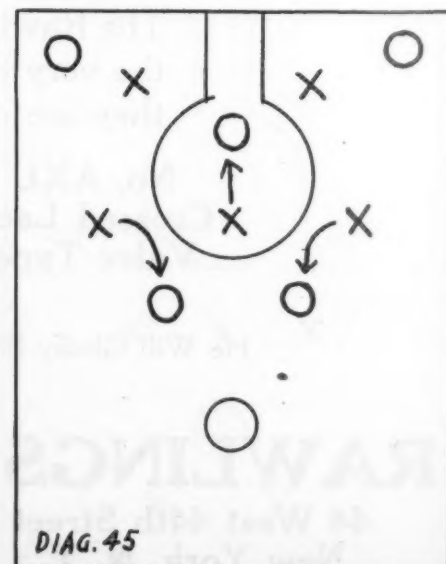
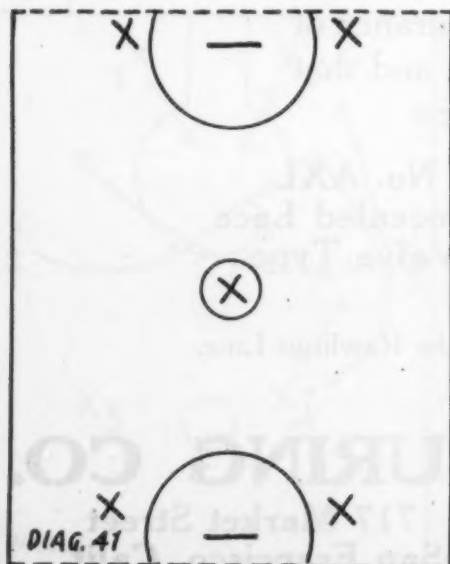
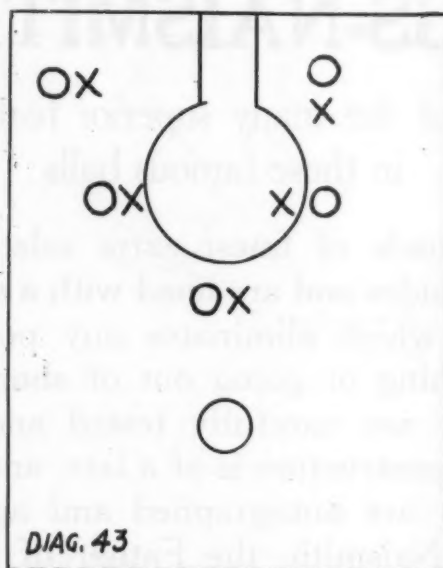
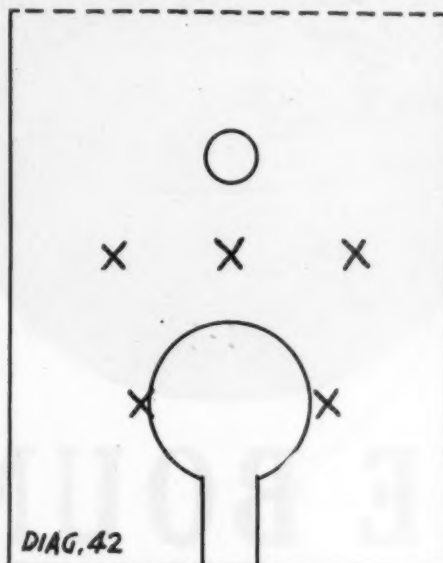
Oklahoma A. & M. College, coached by George E. Rody, varied their defense and attack as the season progressed, playing a strictly five-man defense to begin with against the tip and assuming the zone defense positions. After obtaining possession of the ball, they would send men out down the court to find the open positions against a five-man defense similar to the other teams, with the forwards in the corners and the cen-

ter back of center attempting to pass in through the open lanes. They also attempted to gain on the opponents by fast breaking and a quick change from defense to offense.

Creighton University, being able to

control the tip against most opponents, used an offensive position as in Diagram 41, from which scoring plays were developed and attempts for quick scores were made. Failing to score, they would assume the position of a five-man defense as in Diagram 42. The first two men of the opponents were allowed to take their positions in the corners of the court. When the opposing third man came through to get a position back of the center, the Creighton center would automatically drop back, leaving the two forwards to take care of the opposing team's guards, as in Diagram 45. After gaining possession of the ball, Creighton would attempt to advance it by short, fast passes and endeavor to keep passing until the desirable position on the court would allow the ball to be passed on into the defense.

Summarizing the offense of the various teams in the Missouri Valley Conference: Drake, Grinnell, Washington and Oklahoma A. & M. assumed a defensive position against the tall center who could control the tip, such as Creighton's center; then gaining possession of the ball and advancing it through the opponents' defense by plays described above. Creighton, being able to control the ball, attempted scoring plays from the tip; later, when losing the ball and taking a defensive position and regaining possession of it, they would attempt to advance toward their basket as formerly described. On defense, Creighton, Drake and Oklahoma A. & M. took the five-man defensive position; when the offensive of the opponents sifted through, they would go to a man-to-man defense, while the defenses of Grinnell and Washington were mostly restricted to a man-to-man defense.





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Football Rating Systems

Two schemes are here proposed to help settle the perennial dispute as to who wins the championship and why

Rating Systems—Why and Why Not

By Wm. T. Van de Graaff

Director of Athletics,
Colorado College

COMPARISONS may be odious, but, until men are saints, comparisons there will be. Football is distinctly a secular sport. A subconscious craving for the manly virtues finds expression during the three months of the fall, and the public goes football mad. The press, the average fan, and the participant will continue to draw comparisons, some of them, we must admit, odious indeed. At the season's end, teams and players must be rated. Some one must win this or that championship, and some few of the many players, who may, or may not, deserve the honor, must be All-Americans. The inaccessibility of absolute justice fails to deter the virile man. He proceeds, eliminating errors as best he can. All-American teams, while at present far from perfect, are more justly selected now than was once the case. But the rating of teams and the awarding of championships continue, little changed since the beginning.

The percentage system generally prevails; and yet, a close observation quickly shows how ill adapted it is to football. Only the lack of something better can be responsible for its general use. Games are too few, and the strength of opponents too varied to afford percentage an adequate basis upon which to function. Wherever used, injustices occur annually. True, the awarding of championships is only occasionally affected thereby. In any conference, which is of appropriate size, there is apt, each year, to be an outstanding team whose supremacy is obvious; but, too often, championships also go awry. In 1924 Chicago topped the Big Ten column and boasted 1000 per cent, without defeating an outstanding opponent. Her record shows but three wins, all against opponents who averaged only one Conference victory each out of three starts. Chicago also played tie games against the two lowest ranking schools of the Big Ten, one of which finished the season without a victory in the Conference. Apparently the high spot of her season that year was a draw with Illinois, a team which finished with a percentage of 750 and

tied with Iowa for second place. Another of the numerous instances that might be cited occurred on the Pacific coast in 1927. Idaho recorded 1000 per cent, and tied for first place without winning or tying a single team that showed strength. One of her two victories was over a zero per cent team. Her other win, against the University of Oregon, was only slightly more impressive, since Oregon defeated but two teams, both of which were of such low standing that, between them, they recorded only one victory, and that, sad to say, occurred the afternoon they met. More striking still is the fact that each of these cellar teams was able to play Idaho to a tie game. Nothing could more clearly demonstrate the inequalities possible under a straight percentage rating.

The unfairness of rating strictly by percentage is generally recognized. There have been numerous efforts toward correction. In the Southern Conference, where there is no official rating of teams, a well recognized cup is awarded a so-called champion, entirely upon the vote of a selected group of sports editors. In the Rocky Mountain Conference, a similar cup is given to the outstanding team by one of the leading newspapers of the region, but in this instance coaches and officials are added to the electorate. The results obtained are, no doubt, quite equitable. But the question of who shall vote and the fear of bias will always arise. No attempt has been made, so far as the writer knows, to rate others than the leading team. But this discrepancy, if such it be, might readily be corrected. Perhaps it would suffice to have all teams rated by each voter, to add the index numbers which each team then received, and to arrange the results in sequence. The rating of the teams on this basis would be both fair and just, except that it involves the inherent weaknesses of mankind. It seems, however, that a mathematical process would be more satisfactory in the long run, provided, of course, that its conclusions were equally just.

In 1924 Professor Dickinson, of the University of Illinois, proposed a mathematical system which has received no little publicity. Since that time, certain newspapers have employed it in rating the teams of the Big Ten. In 1928 and 1929, a national

championship was awarded under it. The Dickinson system works as follows:

At the end of the conference season, the teams which have won more than half of their games are grouped into a first division, while those finishing with 500 per cent or less fall into a second division. Each victory over a first division team counts 30 points, while the winner over a second division opponent receives 20 points. If a first division team loses to another first division team, the loser is credited with 15 points; otherwise all losers get 10 points. Tying teams split the winning and losing credits. A rating number is then obtained for each team by dividing the sum of its credits by the number of games played. These numbers, when arranged in sequence, show the relative standings of the various teams.

This system undoubtedly tends to eliminate inequalities. In most cases it works quite satisfactorily, but in some cases it fails woefully. In 1924, it cleared up the Western Conference situation nicely, but when applied to the Rocky Mountain standings for the season of 1929, its results were even more unfair than those offered by straight percentage. This difficulty arises because the Dickinson system is unnecessarily arbitrary and inflexible. Why should the credit for winning from a 500 per cent school be no greater than that for defeating one of the zero per cent? Also, there would seem to be little difference between a victory over a team of exactly 500 per cent and one over a school with a record just a few points better. Under the Dickinson rating system, however, there would be a very material difference in the points awarded. Also, wherefore the selection of 30, 20, 15, and 10, other than rough approximations of proportionate values? It is thought that these objections may be quite satisfactorily removed, and this is the attempt of the several plans set forth below.

In the Rocky Mountain Conference, football teams are officially ranked each year on a percentage basis. In 1928, the athletic directors of this Conference, recognizing the unfairness, and thinking that some of its scheduling difficulties might be removed if the value of winning games was made proportional to the strength of the teams played, appointed a com-

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mittee to study ways and means of improving the situation. This committee gave no little time and study to the question, and, at the spring meeting, presented a plan which the association adopted and under which it awarded a cup for the following season. Tables were presented to show how the plan would have operated over the preceding six years. Every year a number of changes were effected, and, in every case, these changes corrected injustices. When applied to the 1929 season, results equally good were obtained. There seemed to be only two objections to this plan. Possibly it was not drastic enough, and, certainly, though simple in actuality, it had the earmarks of complicity. The plan attempts to rate the results of each game separately through applying the seasonal percentage of each opponent to that of the team for which a rating number is sought. For instance, it is thought that in defeating a zero team, the winner has certainly done no more than to live up to its season as a whole, and should be satisfied, as far as that game is concerned, with its seasonal percentage. Therefore, it is given its seasonal percentage as a rating number for that game. Following this idea out for all games, every victor is given a rating equal to the sum of its own percentage and that of the team defeated, and the loser receives the difference between its own percentage and the inverse percentage (1000 minus the percentage) of its opponent. The seasonal rating number of each team is then obtained by adding its rating numbers for each game and dividing their sum by the number of games played. Tie games are treated as a half game won and a half game lost. For convenience in calculating, these proceedings are grouped into the formula shown in Figure 1.

plied to its own seasonal percentage, as a correction factor, the process would seem much simpler. Such a correction factor may be readily obtained either by averaging the percentage of all opponents or by dividing the number of games won by all opponents by the number of games played by these same opponents. The latter method seems to be the more equitable. Under it, consideration is given to the length of the schedules, and the more indicative an opponent's record, the more weight it will carry.

Two ways of applying the correction factor present themselves. The first of these is to add it to the team's own percentage. The sum could be used as a rating number; but it is thought better to divide this sum by two. It could then be said that the rating number was the mean of a team's own percentage and that of its opponents. Dividing by two would also have another advantage. If the results are carried to three figures, it provides a greater range, and, therefore, prevents any likelihood of ties in the standing, which so often occur in straight percentage.

The second method is to multiply the team's own percentage by its correction factor. This procedure is the more mathematically correct. In fact, it is thought to be, theoretically, absolutely correct, even where many teams fail to meet, provided schedules are sufficiently long. But the proof of this is no assignment for a football coach. For convenience of reference, suppose we hereafter call this method the adjusted percentage plan.

Under both of these plans a tie game is to be considered as a game half won. For instance, should a school play four games, losing one, winning two, and tying one, its percentage would be $\frac{2.5}{4}$ rather than

Figure 1

Rating Number	=	Seasonal percentage of team in question	+ Sum of percentages of teams defeated	- Sum of inverse percentages of teams winning	+ Number of games played	$\frac{1}{2}$ Difference between percentages and inverse percentages of teams tied
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The application of this formula is a simple matter, although at first reading the whole proposition appears obscure and complicated. For this reason, the committee continued studying the question, and has arrived at two slightly differing plans, both of which seem preferable to the one adopted. The complication in the formula system arises from the attempt to treat each game individually. If the strength of a school's schedule as a whole were found, and this ap-

.666. Certainly this is fairer than the old method of considering a tie as no game played. Tie games have considerable significance, and the basis for rating is far too small to allow this to be disregarded.

The Rocky Mountain standings for the past seven years have been calculated under both of these plans, and the results of both analyzed. The results of the first method are quite close to those obtained by the formula. The second is more drastic and

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● The winter hot stove league will soon be concentrating on customary post-mortems of the college football scramble. There will be plenty of ammunition when the critics release their annual tributes to certain young men whose brilliant play has classified them as "stars." The 1930 mythical honor teams will choke the sports columns of our national press throughout the month of December. Hundreds of critics possess an apparent weakness for making All-American selections. These experts find considerable satisfaction in creating eleven football immortals every year.

College Humor publishes an All-American team each fall, but *College Humor* is frank in admitting that one of its staff members cannot select an All-American eleven with fairness to the thousands of boys playing the game. For that reason eight eminent football writers have been appointed to assist in this task. This group of advisors have witnessed every formidable team in action. They will not only submit recommendations for the "1930 All-American Hall of Fame," but will choose a first and second All-Star eleven from the colleges in every section of the country. Thus, 176 college players will receive notice and every team, no matter how obscure, will be assured of consideration.

College Humor's staff of football critics, who will choose the eight All-Sectional teams:

Robert Herron, *New York Post*
Zipp Newman, *Birmingham News*
C. E. McBride, *Kansas City Star*
Lloyd Gregory, *Houston Post-Dispatch*
George Carens, *Boston Transcript*
C. L. Parsons, *Denver Post*
Oliver Kuechle, *Milwaukee Journal*
Ed R. Hughes, *San Francisco Chronicle*

IN THE FEBRUARY ISSUE

College Humor

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strikes with greater force the school playing a weak schedule. But, in the case of every change effected, its results seem the fairer, and it is, therefore, this system that the writer would recommend.

Any rating system based upon percentage will carry with it some of the inherent unfairness, and, to cover such contingencies, one or two supplementary rules should be employed.

The first such rule proposes that if the rating number of any team is lower than that of a team it has defeated, the winning team shall rank immediately above the losing team, regardless of rating numbers, unless it shall have tied or defeated a team of higher rating number than the victor, or unless that team has tied or lost to a team of lower rating number than the defeated team. The justice here is obvious, and it is believed that some similar rule could be applied beneficially to any rating system. However, it appears that the adjusted percentage plan automatically takes care of nearly all such cases, and where this plan is used, it might be advisable to omit this rule in order to avoid complication.

For the rating systems suggested in this paper, a second rule is essential. It proposes that, if the rating number of any team is lowered by a victory, such a game shall be omitted from the calculations unless the number of games remaining falls below five. The Rocky Mountain Conference has, for some time, required that five Conference games must be played before a school is eligible for rating; and, therefore, five is the logical minimum for this Conference. The number, of course, should change to harmonize with varying conditions. It may seem that dropping a win from the calculation is unfair to the winning team, but it must be remembered that the victor profits materially from the natural selection of the team to be dropped, and that this automatic choice is probably at least equivalent to the value of winning from a much inferior opponent. The tables show that it is profitable to drop wins only from schools whose percentages are lower by at least 500 points. There are, however, conceivable cases, although exceedingly unlikely, where this rule could effect slight injustices.

In studying the comparative strength of teams, and in attempting to reach a conclusion without resorting to mathematics, scores, as well as victories and defeats, are considered. The score in any particular game might give an entirely erroneous impression; but the scores for the season as a whole are quite indicative. Needless to say, however, it would be dan-

gerous to grant them too much weight. All of us, no doubt, will agree that it is to the best interests of football that opposing teams play to win rather than to run up, or hold down, the score; and all of us are aware that scores, like coaches, do not mean all that they say. The thought arises, however, that scores might well be used as the determining factor in cases where a decision is extremely close. If the score advantage, or disadvantage, for the season were divided by the number of games played, the result might be added to, or subtracted from, the rating number as previously obtained. Since this average score advantage, or disadvantage, per game would invariably be small indeed in comparison with the rating number, there is no danger that scores would obtain undue emphasis. Adding this score factor would have the advantage of allowing a slight increase in the rating number for games dropped from the calculation, provided the winning team played up to expectations. It would also grant one team the honor of occupying the cellar position when there were two or more contenders of zero percentage. A study of results for the past seven years in the Rocky Mountain Conference shows that it undoubtedly contributes slightly toward absolute equity. There is, however, grave doubt that its merits overbalance the objection of added complicity. It is interesting to note that where the percentages of the Rocky Mountain Conference are adjusted through multiplication and the two suggested rules applied, this score factor produces only two changes in seven years calculated. In both of these cases, the results are slightly improved. In the other systems, which are less drastic, a score factor would be much more effective, and, therefore, more worth while.

Many references have been made herein to the tables showing the various systems when applied to the Rocky Mountain Conference. These tables are too lengthy to be shown in entirety; but the one season selected, 1929, should furnish sufficient data. The remaining years are accessible, upon request, to anyone interested.

As the writer has probably made a more careful study of this question than anyone else will attempt for some time, it might be proper to conclude with a statement of his convictions. It is his belief that the adjusted percentage plan, together with the two rules and the score factor, is the fairest method of rating teams and awarding championships, although it would probably be more practicable to drop scores from the

"Oh, Jim!

We saw every play!

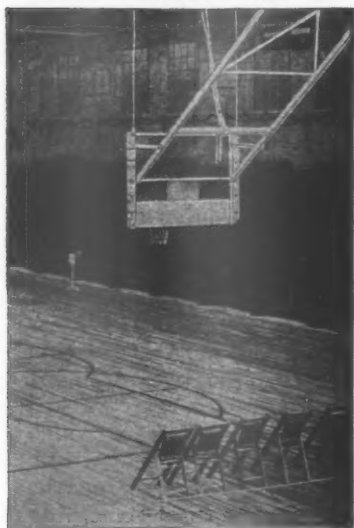
• We didn't get here at the basketball gym till late, and the only seats left were right behind the goals . . . but the ticket man said, 'You'll see the game O. K., Miss, we've got Nurre plate glass banks!' And we did, too! They were just fine, we saw everything! I don't mind sitting behind banks like these . . . they're so awfully easy to see through!" Her athletic brother grinned, "You bet, sis, and they're 'awfully easy' to *play* with, too! They don't do any cute 'tricks' with your shots, they're *accurate*. Wish all gyms had 'em . . . it'd be lots better for both us players and you spectators, too!" But that isn't the only reason . . .



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The Ranking of Rocky Mountain Football Teams Under Various Rating Systems

NOTES: The index numbers for each system are found in parentheses below the rating numbers of each team.

When desired, the score factor shown in the right hand column may be added to any of the rating numbers except those of the Dickinson system.

Schools	1929 Pct. Sys- tem	Dickinson Sys- tem	Formula Sys- tem	Mean Pct.	Ad- justed Pct.	Score Factor
Utah University						
Wins: C. U. (40-0), C. A. C. (21-0), B. Y. U. (45-13), C. C. (12-3), Wyo. (44-0), U. A. C. (26-7).....	1000 (1)	25.0 (1)	*1593 (1)	*785 (1)	*573 (1)	27
Losses: None.....						
Colorado University						
Wins: C. T. C. (19-0), Mines (13-9), C. C. (13-7), C. A. C. (6-0).....	800 (2)	22.9 (2)	*1194 (2)	*685 (2)	*470 (2)	-8
Losses: U. U. (40-0).....						
Ties: D. U. (0-0).....						
Denver University						
Wins: Mines (7-0), Wyo. (19-6), U. A. C. (13-0), C. A. C. (19-6).....	800 (2)	19.5 (5)	* 993 (2)	*590 (2)	*339 (2)	7.5
Losses: C. C. (3-2).....						
Ties: C. U. (0-0).....						
Brigham Young University						
Wins: U. A. C. (7-6), W. S. C. (33- 12), C. T. C. (25-13), Wyo. (40-0).....	667 (4)	20.0 (4)	* 826 (4)	*565 (4)	*323 (4)	6.9
Losses: M. S. C. (13-12), U. U. (45-13).....						
Montana State College						
Wins: B. Y. U. (13-12), Wyo. (13-0).....	667 (4)	20.0 (3)	699 (6)	505 (6)	233 (7)	1.6
Losses: U. A. C. (9-0).....						
Colorado Teachers College						
Wins: W. S. C. (6-0), Wyo. (6-0), Mines (16-13).....	600 (6)	18.0 (7)	527 (7)	455 (7)	190 (9)	-3.2
Losses: C. U. (19-0), B. Y. U. (25-13).....						
Colorado College						
Wins: C. A. C. (14-13), D. U. (3-2), Mines (13-0), W. S. C. (54-21).....	571 (7)	18.6 (6)	* 710 (5)	545 (5)	299 (5)	3.3
Losses: U. U. (12-3), C. U. (13-7), U. A. C. (10-0).....						
Colorado Agricultural College						
Wins: Wyo. (20-7), Mines (12-0), W. S. C. (46-14), U. A. C. (7-6).....	500 (8)	15.0 (9)	471 (8)	480 (9)	230 (8)	2.1
Losses: C. C. (14-13), D. U. (19-6), U. U. (21-0), C. U. (6-0).....						
Utah Agricultural College						
Wins: M. S. C. (9-0), Wyo. (13-7), C. C. (10-0).....	429 (9)	17.1 (8)	458 (9)	500 (8)	244 (6)	-1.3
Losses: B. Y. U. (7-6), D. U. (13-0), C. A. C. (7-6), U. U. (26-7).....						
Colorado School of Mines						
Wins: W. S. C. (20-13).....						
Losses: D. U. (7-0), C. A. C. (12-0), C. T. C. (16-13), C. U. (13-9), C. C. (13-0).....	167 (10)	11.6 (10)	-121 (10)	350 (10)	90 (10)	-5.3
Wyoming University						
Wins: None.....						
Losses: C. A. C. (20-7), D. U. (19-6), U. A. C. (13-7), C. T. C. (6-0), M. S. C. (13-0), U. U. (44-0), B. Y. U. (40-0).....	000 (12)	10.0 (12)	-234 (11)	320 (11)	000 (12)	-19.2
Western State College						
Wins: None.....						
Losses: Mines (20-13), C. C. (54-21), C. T. C. (6-0), B. Y. U. (33-12), C. A. C. (46-14).....	000 (12)	10.0 (12)	-499 (12)	250 (12)	000 (12)	-19.8

*—Rule II has been applied.

ANALYSIS FOR 1929

All systems rate U. U. and C. U. properly in first and second places, respectively. The Dickinson system changes the percentage rating so as to take D. U. from third place, where it belongs beyond doubt, and places it fifth. It also effects changes between C. T. C. and C. C., and between U. A. C. and C. A. C. Both of these changes seem logical, although the latter case might be reasoned either way. The other systems give D. U. third place, but otherwise make the same relative changes as the Dickinson system. In addition, the formula and the mean percentage plans decide the cellar position between the two zero per cent teams. The adjusted and the mean percentage systems go further. Under them C. C. justly ranks above M. S. C. The adjusted percentage goes still further and drops C. T. C. to ninth place, where it undoubtedly belongs, since the only teams it defeated are of still lower ranking. The results indicate that both the mean and the adjusted percentage plans, while more drastic than the others, are quite fair, and that the Dickinson system may work decided injustices. The score factor would produce no changes, but agrees in general with the changes otherwise effected.

consideration. The adjusted percentage system may be very briefly described as the product of a team's own percentage, figuring tie games as a half game won, and a similar percentage of the group of teams it has played. The current standing of any conference could readily be figured at any time during the season; and the idea of the plan and its operation is simple enough to be understood by even the most casual fan.

A Mathematical Rating of Football Teams

By Ralph W. Powell

College of Engineering,
Ohio State University

I AM well aware of the deceitfulness of comparative scores. Team A will defeat Team B by a much larger score than did Team C, and then will let C beat it. But still in the difficult matter of deciding the relative merits of a number of widely scattered teams, most of whom have played with few of the others, it is interesting to investigate the possibilities of mathematics. And what team came through with the best showing on this basis. Make your guess now and prepare to be surprised.

I have based my method on the assumption that the strength of a team is measured by the aggregate score it is able to make during the season, due allowance being made for the strength of the opposition. Conference championships are decided by the percentage of games won or lost, but when we consider the number of games decided by a missed kick after touchdown, and the case of a team which has lost to the two strongest teams in the conference being ranked lower than an inferior team which was lucky enough not to play them, we must admit that ranking on the basis of scores has at least something to be said for it.

My method has been to find the handicap which must be allowed each team; that is, the score with which it should be allowed to start each game and stand an even chance of winning, its opponent starting with its "handicap." Or in other words, the weaker team would be "spotted" the difference of the two handicaps (the weaker the team, the larger the handicap). Although in theory all games played should be considered, the computation required is too colossal, so that sixty-five of the strongest teams were selected and each game that they played with each of the others was considered (152 games in all). I will make no attempt to explain the details of the method except to say that it is

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based on "least squares," the recognized mathematical method for solving problems of this sort. It gives a handicap for each team such that if it had been allowed before each game, as explained above, the aggregate score of each team would have equaled that of its opponents.

Only one exception was made. When the 152 games were tabulated it was found that in four cases the margin of victory was more than 33 points (36 for the Detroit-West Virginia game, 45 for Tennessee-Mississippi, 48 for Southern California-University of Washington and 52 for Southern Methodist-Mississippi). It was felt that to include these figures would give these games more weight than they deserved, and it was decided arbitrarily to define a victory by 33 points or more as an absolute rout and to count it as only 33, no matter how large a score was run up. Figures derived in this way are starred in the table.

The results are shown in tabular form. In the first column is given the score made by the team named at the left, in the second column the score made by the team named above. The third column gives the first minus the second, or the margin by which the team at the left won. Negative values mean that the team named above won. In the fourth column is the handicap of the team at the left and in the fifth column is the sum of columns three and four. This last figure is the handicap that the team named above would have needed in that game. The average of this column (to the nearest whole number) gives the handicap adopted for that team. It must be emphasized that the method of computation is not shown, but only the results. That they are correct is shown by the fact that in every case the average found is the same as the handicap used for that team in all its games. If anyone believes that another set of handicaps would do equally well, he is cordially invited to try it. (Except, of course, that a constant number could be added or subtracted from all the handicaps and they would still fit just as well. I have taken them so that the strongest team would be zero or "scratch.")

When the fifty strongest teams were tabulated in order, three comparatively unknown teams from the Lone Star State led all the rest, and another ranked sixth. It must be admitted that the ranking of these four Texas teams is much more uncertain than that of the other leaders. They had each played each of the others and their rank with respect to each other is quite certain. But their rank

with respect to the other teams of the country is determined by only four games, the University of Texas' defeat of Oklahoma by 21 points, Texas A. & M.'s defeat of Kansas Aggies by 19 points and Southern Methodist's tie with Nebraska and its 52 to 0 victory over Mississippi. The latter, however, was only counted as 33, as explained above. Otherwise, the handicap of these teams would have figured still lower.

If to avoid an argument we omit these four, we have the leading seven teams in the following order: Purdue, Pittsburgh, Tennessee, Illinois, Notre Dame, St. Mary's and Southern California. I believe that this list of seven strongest teams can stand up against that proposed by any football "expert" because it is based on definite figures. And I also think that Texas Christian at least, if not Southern Methodist and Texas A. & M., should be classed with these seven to form the first eight or ten. It should be mentioned that the "probable error" of these ratings is several points, so

that a difference of one or two or even three in the handicaps is not very significant. But a difference of 6 or 7 is quite conclusive and means that the team with the lower handicap would probably beat the other by about one touchdown.

Of course, if a different set of teams had been selected to start with, the results would have been somewhat different. There are probably two or three teams which should rank in the first fifty which have been omitted. Ohio University, for example, on the basis of its 18 to 0 defeat of Indiana, would have a handicap of 6 and would rank eighth in the country. But as this was one game of a "double header" and the team Ohio University played was hardly the Indiana first team I have not ranked it. But it would certainly be among the first fifty. So probably would Utah, but I have no data on which to place it. It should be added that this ranking was worked out during the first week of December and includes only the games up to November 30th.

TABULATION OF FOOTBALL SCORES AND HANDICAPS, SEASON OF 1929

(For explanation see the accompanying article)

ALABAMA

Mississippi	7	22	-15	31	16
Tennessee	6	0	6	6	12
Vanderbilt	13	0	13	14	27
Kentucky	13	24	-11	16	5
Georgia Tech.	0	14	-14	26	12

72 ÷ 5 = 14

ARMY

Harvard	20	20	0	25	25
Yale	21	13	8	22	30
Illinois	17	7	10	8	18
Notre Dame	7	0	7	8	15

88 ÷ 4 = 22

BOSTON COLLEGE

Fordham	7	6	1	17	18
Marquette	20	6	14	13	27
Holy Cross	0	12	-12	25	13

58 ÷ 3 = 19

BROWN

Princeton	12	13	-1	30	29
Yale	14	6	8	22	30
Holy Cross	14	15	-1	25	24
Dartmouth	13	6	7	20	27
Colgate	32	0	32	10	42

152 ÷ 5 = 30

BUCKNELL

W. and J.	14	6	8	23	31
Penn State	6	27	-21	23	2
Fordham	14	0	14	17	31

64 ÷ 3 = 21

CALIFORNIA

Santa Clara	6	27	-21	18	3
St. Mary's	0	0	0	9	9
Washington State	0	14	-14	26	12
Pennsylvania	12	7	5	22	27
Southern Calif.	7	15	-8	9	1
Washington	0	7	-7	32	25
Stanford	1	6	-15	10	25

96 ÷ 7 = 14

CARNEGIE TECH.

W. and J.	0	0	0	23	23
Notre Dame	7	0	7	8	15
Pittsburgh	32	13	21	5	26

64 ÷ 3 = 21

CHICAGO

Indiana	7	13	-6	24	18
Purdue	26	0	26	3	29
Princeton	7	15	-8	30	22
Wisconsin	20	6	14	17	31
Illinois	20	6	14	8	22
Washington	6	26	-20	32	12

134 ÷ 6 = 22

COLGATE

Wisconsin	13	6	7	17	24
Michigan State	0	31	-31	39	8
Indiana	6	21	-15	24	9
Brown	0	32	-32	30	-2

39 ÷ 4 = 10

CORNELL

Princeton	7	13	-6	30	24
Dartmouth	18	14	4	20	24
Pennsylvania	17	7	10	22	32

80 ÷ 3 = 27

DARTMOUTH

Harvard	7	34	-27	25	-2
Yale	16	12	4	22	26
Brown	6	13	-7	30	23
Cornell	14	18	-4	27	23
Navy	13	6	7	21	28

98 ÷ 5 = 20

DAVIS AND ELKINS

West Virginia	6	14	-8	26	18
Fordham	6	6	0	17	17

35 ÷ 2 = 17

DETROIT

Marquette	6	6	0	13	13
West Virginia	0	36	-33	26	-7
Michigan State	0	25	-25	39	14
Oregon State	14	7	7	30	37
Georgetown	13	14	-1	21	20

77 ÷ 5 = 15



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DRAKE									
Missouri	20	0	20	13	33				
Notre Dame	19	7	12	8	20				
53 ÷ 2 = 26									

FLORIDA									
Georgia Tech.	19	7	12	26	38				
Georgia	6	18	12	21	9				
47 ÷ 2 = 24									

FORDHAM									
Holy Cross	0	7	7	25	18				
West Virginia	0	0	0	26	26				
Davis and									
Elkins	6	6	0	17	17				
Bucknell	0	14	14	21	7				
Boston College	6	7	1	19	18				
86 ÷ 5 = 17									

GEORGIA									
North Carolina	12	19	7	22	15				
Florida	18	6	12	24	36				
Tulane	21	15	6	18	24				
Yale	0	15	15	22	7				
82 ÷ 4 = 21									

GEORGIA TECH.									
North Carolina	18	7	11	22	33				
Florida	7	19	12	24	12				
Tulane	20	14	6	18	24				
Notre Dame	26	6	20	8	28				
Vanderbilt	23	7	16	14	30				
Alabama	14	0	14	14	28				
155 ÷ 6 = 26									

GEORGETOWN									
West Maryland	7	0	7	14	21				
Navy	0	0	0	21	21				
West Virginia	0	0	0	26	26				
Detroit	14	13	1	15	16				
83 ÷ 4 = 21									

HARVARD									
Army	20	20	0	22	22				
Dartmouth	34	7	27	20	47				
Michigan	14	12	2	19	21				
Holy Cross	6	12	6	25	19				
Yale	6	10	4	22	18				
127 ÷ 5 = 25									

HOLY CROSS									
Fordham	7	0	7	17	24				
Marquette	0	7	7	13	6				
Brown	15	14	1	30	31				
Harvard	12	6	6	25	31				
Boston College	12	0	12	19	31				
123 ÷ 5 = 25									

ILLINOIS									
Kansas	0	25	25	23	2				
Iowa	7	7	0	12	12				
Michigan	0	14	14	19	5				
Northwestern	7	0	7	17	24				
Army	7	17	10	22	12				
Chicago	6	20	14	22	8				
Ohio State	0	27	27	22	5				
54 ÷ 7 = 8									

INDIANA									
Notre Dame	14	0	14	8	22				
Chicago	13	7	6	22	28				
Colgate	21	6	15	10	25				
Ohio State	0	0	0	22	22				
Minnesota	19	7	12	12	24				
Northwestern	14	19	5	17	12				
Purdue	32	0	32	3	35				
168 ÷ 7 = 24									

IOWA									
Ohio State	7	6	1	22	23				
Illinois	7	7	0	8	8				
Wisconsin	0	14	14	17	3				
Minnesota	7	9	2	12	10				
Purdue	7	0	7	3	10				
Michigan	0	0	0	19	19				
73 ÷ 6 = 12									

KANSAS									
Illinois	25	0	25	8	33				
Kansas Aggies	6	0	6	20	26				
Nebraska	12	6	6	13	19				
Oklahoma	0	7	7	23	16				
Missouri	7	0	7	13	20				
114 ÷ 5 = 23									

KANSAS AGGIES									
Purdue	26	13	13	3	16				
Texas A. and									
M.	19	0	19	1	20				
Kansas	0	6	6	22	16				
Oklahoma	14	13	1	22	23				
Missouri	6	7	1	12	10				
Nebraska	10	6	4	11	15				
Marquette	25	6	19	13	32				
132 ÷ 7 = 19									

KENTUCKY									
Alabama	24	13	11	14	25				
Tennessee	6	6	0	6	6				
31 ÷ 2 = 16									

MARQUETTE									
Detroit	6	6	0	16	16				
Holy Cross	7	0	7	24	31				
Boston College	6	20	14	19	5				
Kansas Aggies	6	25	19	20	1				
53 ÷ 4 = 13									

MICHIGAN									
Michigan State	0	17	17	39	22				
Purdue	30	16	14	3	17				
Ohio State	7	0	7	22	29				
Illinois	14	0	14	8	22				
Harvard	12	14	2	25	23				
Minnesota	6	7	1	12	11				
Iowa	0	0	0	12	12				
136 ÷ 7 = 19									

MICHIGAN STATE									
Michigan	17	0	17	19	36				
Colgate	31	0	31	10	41				
Detroit	25	0	25	15	40				
117 ÷ 3 = 39									

MINNESOTA									
Vanderbilt	6	15	9	14	5				
Northwestern	14	26	12	17	5				
Indiana	7	19	12	24	12				
Iowa	9	7	2	12	14				
Michigan	7	6	1	19	20				
Wisconsin	12	13	1	17	16				
72 ÷ 6 = 12									

MISSISSIPPI									
Vanderbilt	19	7	12	15	27				
Alabama	22	7	15	14	29				
Tennessee	52	7	33*	6	39				
So. Meth.	52	0	33*	2	35				
Purdue	27	7	20	3	23				
153 ÷ 5 = 31									

MISSOURI									
Drake	0	20	20	26	6				
Nebraska	7	7	0	13	13				
Kansas Aggies	7	6	1	20	21				
Kansas	0	7	7	23	16				
Oklahoma	0	13	13	23	10				
66 ÷ 5 = 13									

NAVY									
Notre Dame	14	7	7	8	15				
Princeton	13	13	0	30	30				
Pennsylvania	7	2	5	22	27				
Georgetown	0	0	0	21	21				
Dartmouth	6	13	7	20	13				
106 ÷ 5 = 21									

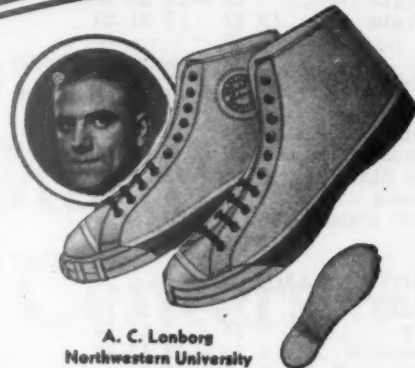
NEBRASKA									
So. Meth.	0	0	0	2	2				

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NORTH CAROLINA

Georgia Tech.	7	18	-11	26	15
Georgia	19	12	7	21	28
43 ÷ 2 = 22					

NORTHWESTERN

Wisconsin	0	7	-7	17	10
Minnesota	26	14	12	12	24
Illinois	0	7	-7	8	1
Ohio State	6	18	-12	22	10
Indiana	19	14	5	24	29
Notre Dame	26	6	20	8	28
102 ÷ 6 = 17					

NOTRE DAME

Indiana	0	14	-14	24	10
Navy	7	14	-7	21	14
Wisconsin	0	19	-19	17	-2
Carnegie Tech.	0	7	-7	21	14
Georgia Tech.	6	26	-20	26	6
Drake	7	19	-12	26	14
Southern Calif.	12	13	-1	9	8
Northwestern	6	26	-20	17	-3
Army	0	7	-7	22	15
76 ÷ 9 = 8					

OHIO STATE

Iowa	6	7	-1	12	11
Michigan	0	7	-7	19	12
Indiana	0	0	0	24	24
Pittsburgh	18	2	16	5	21
Northwestern	18	6	12	17	29
Illinois	27	0	27	8	35
132 ÷ 6 = 22					

OKLAHOMA

Texas	21	0	21	5	26
Kansas Aggies	13	14	-1	20	19
Kansas	7	0	7	23	30
Nebraska	13	13	0	13	13
Missouri	13	0	13	13	26
114 ÷ 5 = 23					

OREGON

Stanford	33	7	26	10	36
Washington	0	14	-14	32	18
Oregon State	0	16	-16	30	14
St. Mary's	31	6	25	9	34
102 ÷ 4 = 26					

OREGON STATE

Southern Cal.	21	7	14	9	23
Stanford	40	7	33	10	43
Washington	9	0	9	26	35
Oregon	16	0	16	26	42
Detroit	7	14	-7	15	8
151 ÷ 5 = 30					

PENNSYLVANIA

California	12	7	5	14	19
Navy	2	7	-5	21	16
Penn. State	19	7	12	23	35
Cornell	7	17	-10	27	17
87 ÷ 4 = 22					

PENN. STATE

Pennsylvania	7	19	-12	22	10
Bucknell	27	6	21	21	42
Pittsburgh	20	7	13	5	18
70 ÷ 3 = 23					

PITTSBURGH

West Virginia	7	27	-20	26	6
Nebraska	7	12	-5	13	8
Ohio State	2	18	-16	22	6
W. and J.	0	21	-21	23	2
Carnegie Tech.	13	34	-21	21	0
Penn. State	7	20	-13	23	10
32 ÷ 6 = 5					

PRINCETON

Brown	13	12	1	30	31
Cornell	13	7	6	27	33
Navy	13	13	0	21	21
Chicago	15	7	8	22	30
Yale	13	0	13	22	35
150 ÷ 5 = 30					

PURDUE

Kansas Aggies	13	26	-13	20	7
Michigan	16	30	-14	19	5
Chicago	0	26	-26	22	-4
Wisconsin	0	13	-13	17	4
Mississippi	7	27	-20	31	11
Iowa	0	7	-7	12	5
Indiana	0	32	-32	24	-8
20 ÷ 7 = 3					

SANTA CLARA

California	27	6	21	14	35
Stanford	7	13	-6	10	4
St. Mary's	6	0	6	9	15
54 ÷ 3 = 18					

SOUTHERN CALIFORNIA

Oregon State	7	21	-14	30	16
Washington	0	48	-33	32	-1
Stanford	0	7	-7	10	3
California	15	7	8	14	22
Notre Dame	13	12	1	8	9
Wash. State	7	27	-20	26	6
55 ÷ 6 = 9					

SOUTHERN METHODIST

Nebraska	0	0	0	13	13
Mississippi	7	52	-33	31	-2
Texas	0	0	0	5	5
Texas A. and M.	7	12	-5	1	-4
Texas Christian	7	7	0	0	0
12 ÷ 5 = 2					

STANFORD

Oregon	7	33	-26	26	0
Oregon State	7	40	-33	30	-3
Southern Calif.	7	0	7	9	16
Washington	0	6	-6	32	26
Santa Clara	13	7	6	18	24
California	6	21	-15	14	-1
62 ÷ 6 = 10					

ST. MARY'S (Calif.)

California	0	0	0	14	14
Santa Clara	0	6	-6	18	12
Oregon	6	31	-25	26	1
27 ÷ 3 = 9					

TENNESSEE

Mississippi	7	52	-33	31	-2
Alabama	0	6	-6	14	8
Vanderbilt	0	13	-13	14	1
Kentucky	6	6	0	16	16
23 ÷ 4 = 6					

TEXAS A. AND M.

Kansas Aggies	0	19	-19	20	1
Tex. Christian	13	7	6	0	6
So. Methodist	12	7	5	2	7
Texas	0	13	-13	5	-8
6 ÷ 4 = 1					

TEXAS CHRISTIAN

Texas A. and M.	7	13	-6	1	-5
Texas	12	15	-3	5	2
Southern Meth.	7	7	0	2	2
-1 ÷ 3 = 0					

UNIVERSITY OF TEXAS

Oklahoma	0	21	-21	23	2
Southern Meth.	0	0	0	2	2
Tex. Christian	15	12	3	0	3
Texas A. and M.	13	0	13	1	14
21 ÷ 4 = 5					

TULANE

Georgia Tech.	14	20	-6	26	20
Georgia	15	21	-6	21	15
35 ÷ 2 = 18					

VANDERBILT

Mississippi	7	19	-12	31	19
Minnesota	15	6	9	12	21
Alabama	0	13	-13	14	1
Georgia Tech.	7	23	-16	26	10
Tennessee	13	0	13	6	19
70 ÷ 5 = 14					

UNIVERSITY OF WASHINGTON

Southern Calif.	48	0	33	9	42
Wash. State	20	13	7	26	33
Oregon	14	0	14	26	40
Stanford	6	0	6	10	16
California	7	0	7	14	21
Chicago	26	6	20	22	42
194 ÷ 6 = 32					

WASHINGTON STATE

California	14	0	14	14	28
Washington	13	20	-7	32	25
Oregon State	0	9	-9	30	21
Southern Calif.	27	7	20	9	29
103 ÷ 4 = 26					

WASHINGTON AND JEFFERSON

Bucknell	6	14	-8	21	13
Carnegie Tech.	0	0	0	21	21
Pittsburgh	21	0	21	5	26
West Virginia	6	0	6	26	32
92 ÷ 4 = 23					

WESTERN MARYLAND

Georgetown	0	7	—	7	21	14
WEST VIRGINIA						
Davis and						
Elkins	14	6		8	17	25
Pittsburgh	27	7		20	5	25
Fordham	0	0		0	17	17
Detroit	36	0		33*	15	48
Georgetown	0	0		0	21	21
W. and J.....	0	6	—	6	23	17
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153 ÷ 6 = 26						



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Is the College Track Athlete Deteriorating

By Edward L. Farrell

Head Coach, Harvard Track Team
Assistant Coach, American Olympic Team, 1924, 1928

THE assertion that the college youth of today is lacking in stamina and endurance as compared to the collegian of ten or more years ago, seems to have aroused considerable interest and discussion, which is a pleasing condition.

There is, however, another criticism which is unjust to the modern college man. This criticism, that the collegian of today is deteriorating, perhaps is inspired by the erroneous feeling that the distance runners of the American Olympic team were a sad failure at Amsterdam in 1928.

To the critics and to others particularly interested, the following statement and facts will prove that the American college athlete of today is just as rigorous in stamina and endurance as the college men of ten, twenty or thirty years ago. When we talk of stamina and endurance, it is only natural that we think of the distance runner.

The average age of the athlete of today is a year younger than the average age in 1920. One year is a tremendous handicap at this particular time of life. Despite this handicap, records on the I.C.A.A.A. program during the past ten years have been bettered in all events except the 440 yard and mile runs.

Moreover, there are many more college athletes doing much faster time than was the case ten, twenty or thirty years ago. In the two mile run in the I.C.A.A.A. held at Philadelphia in May, 1929, Reid of Harvard won in new record time of 9:22; Cox of Penn State was at his shoulder and three others were close up, showing there were five men that day as good as the former record holder in both stamina and endurance.

It is not fair to compare the I.C.A.A.A. cross-country races of the past ten years with those of the previous ten because of the differences in the courses, and also because hurdles have been added within the past ten years. We can, however, compare the latter years with the earlier years of the past ten. All the early records have been erased. Furthermore, in the early years there were only two or three outstanding runners, while in recent years every race has been a

battle among five or six men, sometimes more. In 1928 I saw eleven men better the then existing record. The only reason I can assign for this exhibition of stamina and endurance by so many modern youths, which was never surpassed by the athlete of ten years ago, is that racing conditions were ideal. The suggestion that the latter day athlete lacks the stamina and endurance, comparing as a group the distance men of today with a corresponding group of ten years ago, is therefore absolutely without foundation.

It is unfair to the record holder and champion of ten or twenty years ago whose record has been displaced to say that the one who bettered that record is a better man in speed, stamina and endurance. I hardly believe that James E. (Ted) Meredith would be beaten by either one of the two men who has bettered his old record for 880 yards. John Paul Jones still holds the record in the I.C.A.A.A. mile. He happened in a cycle that was productive of wonderful mile runners. In that particular race there were four men under 4:19. Jones is the best example of speed, stamina, endurance and rhythm of motion that the American colleges have produced.

There are more men today capable of a 4:20 mile than ever before, and the time is not too remote when a new collegiate mile record will be written on the books. New half mile, mile and two mile records will displace existing records before young men of this college generation receive their degrees. Certainly, if the modern athlete were deteriorating, or lacking the stamina and endurance of the athlete of a decade ago. I would make no such prediction. Coming events in the next four years will be ample proof that modern youth is progressing, not retrogressing.

The reason for the suggestion of retrogression in the first place, probably, was because the feeling existed that the distance running athlete of America won fewer races than usual in the last Olympic games. The reasoning is erroneous. The 1924 and 1928 American Olympic distance runners fared as well as did the team of 1912 (America's best Olympic

team). England won the 1500 metres and Finland the other distance races up to the Marathon that year. We were worse off in 1928 only in the short races (which we are not considering).

Point scoring systems have changed in each Olympic year since 1912, when three places counted. Later, five counted and now six. Moreover, in each Olympic year the number of competitors has been reduced. The unofficial reason assigned for this change was to give the smaller nations a chance to appear in the point column, and to make the games a representative World's Olympic. This is one reason why it is unfair to say that the Olympic distance runner of America has deteriorated. It must be remembered that the other nations were bound to improve.

Why has young America not improved in the World's Olympic competition? First reason: From the time the American athlete leaves these shores until his competition takes place, his whole day has changed. A difference of six or seven hours in his daily habits has taken place within a ten day period. He is arising about the time he should have been retiring back home. His meal times are correspondingly off schedule. In other words, his system has not become accustomed to the change in the clock. You may hold it does no damage, yet physicians are opposed to the one hour daylight saving time because it is too drastic a change on infants. What about six hours on the finely trained delicate mechanism of an athlete? The European athlete undergoes no such dire change in daily habits. Second reason: Our colleges furnish the big percentage of Olympic team athletes, which means an average age of about twenty-two (except for Marathon runners), this in comparison to Nurmi, Wide and Ritola, who competed when thirty years of age or older. Naturally, our boys have not the stamina or experience at twenty-two they would have at twenty-five or thirty. The real reason for the success of the Europeans in the distance running is environment, endurance and stamina that comes with age. Records will prove that the ideal

period which is productive of records is between twenty-five and thirty-two years. George of England, Ritola, Wide, Nurmi, Hahn, Hill, Kohlemainen and Lowe, all were over twenty-five years when they showed their best pace. Stamina and endurance improve up to various ages. In the 1924 Olympic Marathon, run on a very hot day, of the first ten men to finish, six were over thirty-five and all but one over twenty-eight. No one can gainsay that Marathon racing is not an endurance contest and that the mature ages of the point winners was a mere coincidence.

Third reason: Environment has a tremendous amount of bearing on distance running. The American youth on completing his college education must and is expected to be a better provider, and in this age of efficiency and specialization it takes all of his ambition and time to attain his goal. The European has not the modern advantages of young America. Up to a few years ago he walked back and forth to work and saw few automobiles. The bicycle is more common in Europe today than it was here in America twenty-five years ago. The European has not so much, is not accustomed to so much, and therefore does not have to struggle, as does the young college graduate, to maintain his station in life. In other words, the European in his daily life and habits is more adaptable to distance running.

We have more and better college distance men now than ever before; there is no deterioration. The problem is to keep these men interested enough to continue their training and running for four or five years after they have completed their college courses. They quit their running at just about the time they are to reap real results. They have only commenced to gather that stamina and endurance which comes with years. I cannot conceive how we may keep them at it.

If a man has prepared himself for the law, or medicine or other professions, he cannot afford to give much of his post graduate years to training for distance races. I do not blame him. Track and field is free of the "professional amateurs," thanks to the organizing done by the Amateur Athletic Union, which may not be perfect, but which has done some wonderful work and is sincere in its efforts to keep track a true amateur sport. If our distance runners continue to fall in future Olympics for this reason, it certainly is best for all concerned.

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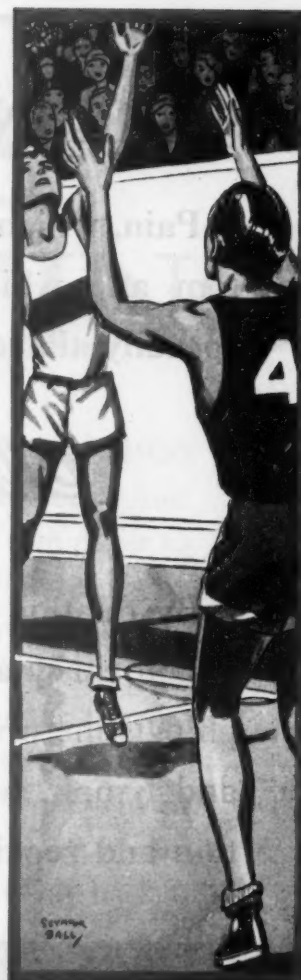


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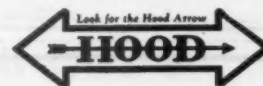


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Another Football Season

(Continued from page 4)

ing and subsidizing problems. This is an encouraging sign. College men generally believe in playing the game according to the rules, and when once standards respecting the recruiting of students generally have been accepted it is reasonable to believe that we will have fewer and fewer charges relative to hired players on the college teams. The Carnegie Foundation holds that if any athlete is paid for work done on the campus that such an athlete has been illegitimately subsidized. Not many, however, will accept the Carnegie Foundation definition of athletic subsidies. After all, an athlete should not be denied the same privileges that are given to other students. At the same time, the colleges or universities that see to it that all of the lucrative employment on the grounds or in the buildings is given to athletes are subject to criticism.

From the very beginning of football until the present time certain critics venomously attacked the game. There are probably no more and no less critics this year than formerly. The football critics fall into three classes:

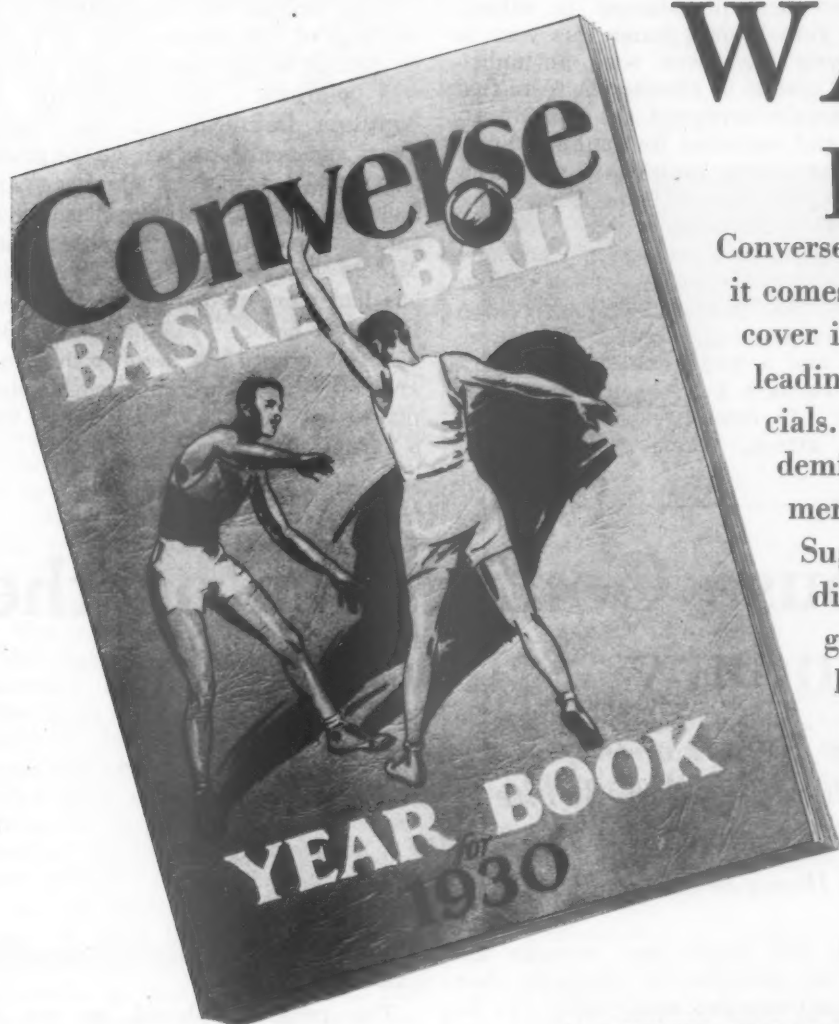
First, The Cynics. Someone has said that cynicism is a substitute for intelligent thinking. Many of the charges that have been leveled against college football have been based on false premises and consequently the conclusions are false.

Second, The Reformers. A great many people want to reform football. They note that in some universities conditions are not as they should be and they erroneously assume that conditions in all institutions are bad.

Third, The Friends of Athletics. The great majority of school and college athletic administrators have the best interests of football at heart. They do not believe that it is necessary to kill the patient in order to correct some of his ailments. Consequently, their criticisms are constructive. The future of the game is in the hands of these men. The writer has faith that the friends of athletics will year by year improve the game, eliminate the evils that creep in and will justify their faith in this American sports activity.

So far as the game itself is concerned, the modern game appeals to the players undoubtedly more than the game that was played twenty-five years or more ago appealed to the players of that time. Some of the old-timers will take issue with this

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statement. The modern game, however, places a premium on speed, timing, alertness, and intelligence. It is a good game to watch and it is a good game to play.

In some institutions where touch football has been substituted for intramural football, the players have suggested that they would rather play the game where tackling and blocking are involved. Some athletic directors do not encourage the development of intramural football. They hold that it is difficult to get the men to train adequately for their intramural contests, and consequently a great many injuries ensue. At other universities, notably at Wisconsin, Notre Dame and Princeton, intramural football has been decidedly a success. If intramural football is to succeed, it is clear that the players must be properly equipped and coached. A great many boys who cannot play intercollegiate football undoubtedly would play intra-

mural football if given the opportunity and if properly encouraged.

The different styles in attack and defense as exemplified by the leading coaches throughout the country were discussed in the November issue of the ATHLETIC JOURNAL. Certain offensive styles are adapted to some players and ill adapted to others. Very few, if any, teams this year as formerly have won with an unbalanced system of offense. A team that has highly developed the passing attack and neglected its running, bucking and kicking attack may win a few games, but such a team rarely wins a conference championship. The forward pass, however, has played more of a part in the success of the various teams this year than formerly. A few outstanding kickers were developed and a large number of broken field runners have been widely heralded. In connection with the running attack, teams that formerly

planned their offense with the idea that the plays were designed to make two and a half to three yards per down are now attempting to score touchdowns from the middle of the field. With good blocking and exceptional ball carriers this theory of offense is tenable.

Good football has been played in all sections of the country and it would be difficult to say that any one section was supreme. The University of Southern California on the Pacific Coast apparently has one of the greatest football teams of all times, and Notre Dame in the Middle West has so far won over all of its Eastern and Middle Western rivals. The South has had more strong teams this year than ever before. Football in the Big Ten Conference has been up to standard. In this Conference every game played between Conference rivals was a battle.

The White House Conference on the Secondary School

An Extract from the Report of the Committee on Recreation and Physical Education of the White House Conference on Child Health and Protection

Colonel Henry Breckenridge, Chairman

THE age group covered is approximately from twelve years to eighteen (the limit of the study laid down by the Conference). These years are especially important because of the acceleration in physical and mental growth. They include the age of puberty. It is the age of ambition, idealism and romance. Interest in the other sex is awakened. It is the gang age. It is an age of important character development. Activity should stress the importance of honesty, fair play, courage and perseverance.

For this period especially is submitted some general objectives for a rational program of physical education:

(1) To inculcate health habits; (2) To develop the body harmoniously through a general systematic exercise procedure; (3) To correct physical defects; (4) To give a fund of exercise material for use in after-school days; (5) To give opportunity for the development and guidance of play spirit; (6) To provide situations

which will arouse and increase the physical qualities of courage, fair play, self-sacrifice, and loyalty; (7) To give positive instruction in citizenship through leadership and response to commands.

As in elementary schools, there should be one period of physical education each day in the secondary schools.

The program should be based on individual needs and determined by a thorough physical examination. Sex, age and stage of development should be considered in planning and administering programs of physical education in secondary schools.

It seems desirable that programs for girls be studied and reorganized and made to conform to the suggestion made by the subcommittee on Athletics for Girls and to the principle set forth by the Women's Division of the National Amateur Athletic Federation.

There is need of scientific research of the effect on girls of strenuous

competition and of highly competitive games.

The program should be one to arouse interest and enthusiasm and a desire for self-improvement. The Board of Education should supply well-trained teachers, who should be recognized members of the faculty. Equipment should be paid for by the Board of Education.

Athletics should be organized; first, for the pupil; second, for the so-called school spirit; and third, for the community interest. *Interclass competition needs stressing more than interschool competition.*

The specific objectives of the programs of physical education may be stated as follows:

(1) A medical examination for every school child; (2) Health habits that endure; (3) A class period in physical education each day for each pupil; (4) A gymnasium and playground for every school; (5) The teacher fully trained and accredited; (6) The coach a member of the fac-

ulty; (7) A graded and scientific curriculum; (8) Standardized physical achievement tests; (9) Positive academic credit for physical education work; (10) Education for leisure; (11) An intramural program for after-school hours; (12) An athletic program for girls planned and administered by qualified women stressing especially: (a) Girls' rules for girls' activities, (b) Games and types of competition adapted to age, capacity and interest; (13) A varsity program that stresses sportsmanship and ethical conduct; (14) Opportunities for scouting and campcraft; (15) Equipped and supervised summer playgrounds; (16) Provisions for wholesome adult recreation.

Play and Recreation Outside the School

Private and semi-public agencies in the field of recreation and physical education are serving over 11,000,000 children from eight to eighteen years of age. Of these 6,300,000 are boys. A conservative estimate is that the nine hundred and more cities in the United States which report public recreation serve 3,000,000 children.

The frequency with which boys and girls make use of the opportunities provided by these agencies varies. The Scout troop or club may have the child or youth only a few hours a week during part of the year. On the other hand, summer camps may have them for days and weeks at a time, making feasible intensive work of a very valuable sort.

All the agencies aim to satisfy the urge of child life through physical, rhythmic, dramatic, manual and social activities so that the individual may have a happy personal life and may develop a lasting capacity for wholesome enjoyment. This, however, is but part of the aim. The agencies have as their goals growth in skills of all kinds, development of good health and sturdy physiques, worthy home membership, safety, training for vocations, the unfolding of personality, moral growth and good citizenship.

In carrying out their programs, these agencies utilize every community resource. Facilities include playrooms and backyards, public playgrounds and parks, club rooms, parish houses, school kitchens, community houses, Y. M. C. A. and Y. W. C. A. buildings, Catholic centers, Jewish centers, pools, beaches, camps, golf courses and a great variety of others.

Public agencies are supported by municipal appropriations and bond issues. Private agencies are supported by the contributions of public

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spirited individuals made directly or through the Community Chest. Some groups are in part supported by endowments. Some in part by membership fees.

The majority of both volunteer and employed leaders of these agencies are persons of culture, have had college training or its equivalent, and many have had special courses to prepare them for their work. They are animated by ideals of service. The programs of many of these agencies have set a standard for schools. The activities of the private and semi-public organizations tend to supplement the work of official agencies and should not be considered as substitutes for them.

The two major needs are adequate leadership and more funds. Higher salary standards would attract persons of greater calibre. More funds are needed to secure additional facilities and to extend and improve the present scope of operation.

Although there is little evidence of serious over-lapping in the work of agencies, there should be closer co-operation between private agencies operating in the same city, and between public and private groups. There should be more extensive use of schools and other public buildings for the work of municipal recreation, and for the programs of private agencies in this field. In some states there should be more legal encouragement of municipal activities.

There is much room for the development of programs in institutions for dependents and defectives. The curative value of games, dramatics, music, and other activities for persons ill in mind and body has been demonstrated and is a sound basis for their extension in such institutions. There is a great field for developing physical education and recreation among foreign born sections of our communities, and among the colored population.

In the rural field, there is need for the expansion of 4-H Clubs and other agencies for boys and girls. To lay a community basis for leisure time activities, it is necessary to train more and more teachers, ministers, 4-H Club teachers, members of women's clubs, Parent-Teacher Association leaders, and others so that they may become leaders in their communities and organizations.

There is a large field for research. Intelligent education of the public as to the importance and objectives of recreation and physical education is a fundamental necessity.

Governmental action that would facilitate the work of these agencies is

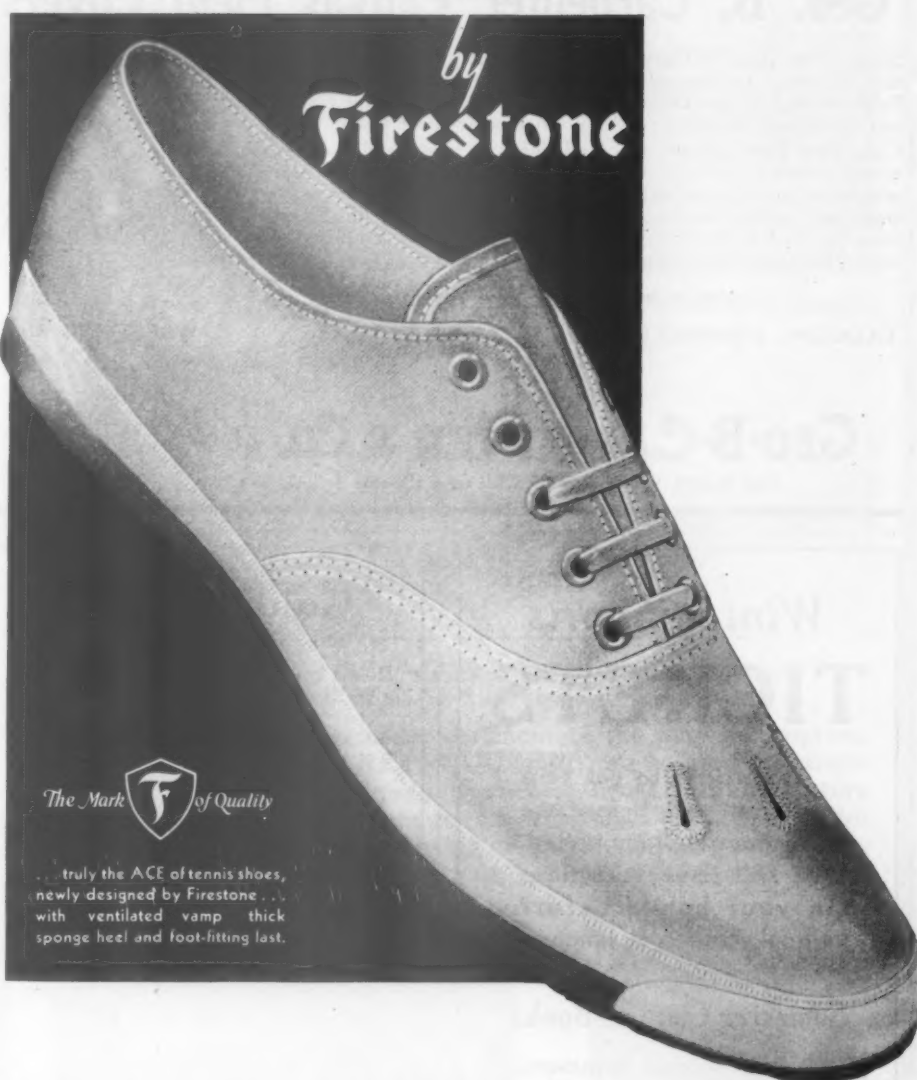
an official recognition of their existence and functions, and additional permissive legislation authorizing the use by them of public buildings and grounds, under such regulations as local authorities find necessary to prescribe.

Improvement in leadership will come through better training opportunities and through the establishment of higher standards for recreation workers and teachers of physical education. About two hundred educational institutions, and national and local organizations now have training courses in recreation and physical education. These courses should be enriched and extended. Several agencies have courses conducted either separately, directly under their own auspices, or in connection with universities, providing graduate training for college students who plan to go into recreation and physical education. The raising of civil service requirements and stimulating of higher type of persons to take civil service examinations will help improve the quality of employed workers. The employment of workers should not only depend upon passing paper examinations but also upon personal interviews and actual testing of capacity for leadership.

Closer cooperation between public and private agencies may be secured by local councils, which shall not seek to dominate or coordinate the agencies but may act as clearing houses for the closer cooperation and advancement of the work of all agencies. Agreements and possibly legislative enactments should be worked out so that agencies in a position to give service may secure the use of buildings and grounds controlled by public bodies or other agencies.

There should be federal and state legislation to permit the employment of specialists to guide and train extension employees and local extension leaders in rural recreation work. There should be an increase of tax funds for public recreation, and of private gifts to privately supported agencies. There should be further development of park and regional planning; a more aggressive policy among leaders in physical education and recreation in contacting with foreign language groups and communities; extension among real estate subdividers of the growing practice of setting aside permanent recreation areas in subdivisions; and for the lay groups, information as to standards of recreation facilities and programs for various types and sizes of communities.

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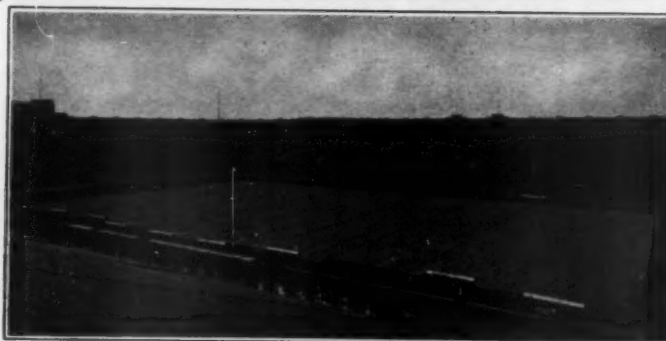
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Leadership Training

The purpose of this report is two-fold:

1. To bring together the most accurate information on the present curriculum in the 139 institutions preparing teachers of physical education and leaders in recreation.

2. To make recommendations to the White House Conference Committee on Child Health and Protection for the improvement of the curriculum preparing teachers for children and adolescents in the pre-school, the elementary and secondary school, and the recreational group after school, including both school and working groups.

The report includes both the education of the group in the essential skills and the recreational repetition of learned skills.

1. Recommendation of a basal course of 136 semester hours divided as follows:

	Hours
(1) Natural and Applied Science	37
(2) History and Social Science	8
(3) Psychology	8
(4) Language and Literature	12
(5) Education	12
(6) Physical Education and Recreation	
(a) Theory	16
(b) Practice	16
(c) Supervision and Administration	6
(d) Free electives	21

136

These group requirements were adopted in 1929, by the American Physical Education Association. They were later adopted by the committee of the State Directors for the public schools under the leadership of Dr. Allen G. Ireland, State Director of New Jersey.

2. Recommendations of committee recognize four special elective groups built upon the basal course:

- (1) The health service and health education group.
- (2) The general physical activity group.
- (3) The recreational promotion group.
- (4) The athletic coaching group.

Because of transfer of leaders from group to group and to the higher administrative positions, the committee strongly recommends a good basal course for all students preparing for leadership in any of the specific fields. The full report makes clear that such basal courses should allow for ade-

quate electives in the specific field elected through the twenty-one semester hours of free electives and also through the electives in the six general groups.

3. The committee recommends the adoption of the subject terminology given in this report and also the general group given in the first section of this summary. These terms and this arrangement has already been adopted by the two national committees mentioned above. Future comparison of curriculum can be made only as a uniform, clear terminology is used. At present, physical education, for example, may mean physical practice, hygiene, physiology, administration or several other topics.

4. The committee made a careful study of the curriculum recommended by the American Physical Education Association in the fall of 1929. Forty-eight replies were received. The large majority recommended the adoption of the quantitative requirements of this committee.

5. The committee made a careful study of the 108 catalogs giving a four-year course with degree in physical education and recreation, to find the special emphasis placed upon sub-topics under each subject. This qualitative analysis is included in the report in a table of frequencies. It includes a study of 36 state universities and colleges, 28 state teachers' colleges and 44 endowed colleges.

6. The White House Conference questionnaire sent out by the committee on Leadership Training received from individuals three suggestions for additional courses:

1. A course in safety education.
2. A course in business administration.
3. A course in music and art.

7. The result of a questionnaire on the personal qualities of leaders is presented in the body of the report.

8. A study of state requirements in physical education and recreation. The report gives a table of subject requirements for each subject in each state. These are the accrediting requirements for each state. The following table gives the number of states with requirements in each group:

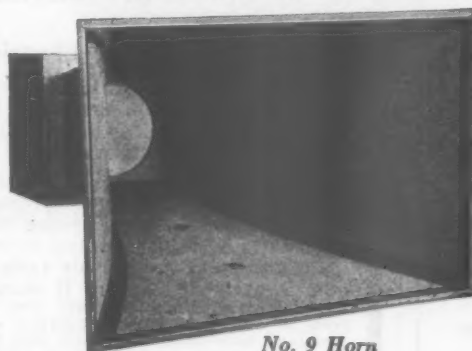
Subject	No. of States Requiring	Rank
Natural and Applied		
Science	17	(2)
History and Social		
Science	6	(5)
Psychology	5	(6)
Language and Literature	8	(4)
Education	14	(3)

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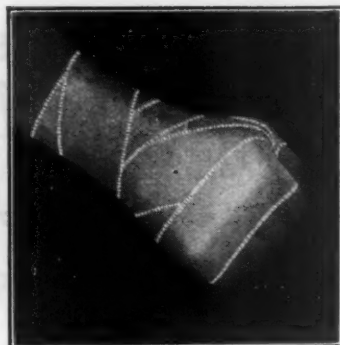
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9. Summary of total major frequencies in the 36 states giving specific requirements:

Natural and Applied Science..... 79
Education 48
Physical Education Theory..... 37
Directed Teaching 28
Language and Literature..... 18
History and Social Science..... 13
Physical Education Activity..... 10
Psychology 9

The summary probably shows the importance attached by the state to different portions of the curriculum.

10. Subcommittee Reports.

(1) Pre-school child, Mrs. A. H. Reeve, Chairman.

This committee recommends special preparation for teaching this group—in kindergartens, nursery schools, playgrounds, hotels and on steamers. A special list of institutions doing this work is included in the report.

(2) Elementary school. W. G. Moorhead, Chairman.

This committee recommends specialization on the basis of the four-year curriculum adopted by the General Committee for three groups of teachers.

(a) Regular four-year curriculum for teachers of physical education.

(b) Two-year curriculum for training of elementary classroom teachers.

(c) Four-year curriculum for training of elementary classroom teachers.

These subdivisions are valuable aids in curriculum revision.

(3) Secondary school. A. Lester Crapser, Chairman. Miss Helen M. McKinstry, Chairman Women's Section.

This committee recommends adoption of the general report with the addition of a course on the methods of teaching health and differentiation in the practice courses for men and women.

(4) Volunteer Leadership. Dr. John Brown, Jr., Chairman.

This committee calls attention to two types of leaders—1. Policy makers. 2. Task performers.

This committee shows how to enlist volunteer workers and prepare them for their work. A schematic outline is given

of a course for the preparation of volunteer leaders.

- (5) Graduate committee. Dr. Ruth Elliott.
Report not yet received.
- (6) Committee on Personnel. Miss Blanche M. Trilling, Chairman.

The full report gives three tables with a careful analysis of three topics:

- I. Qualities necessary for success in teaching.
- II. Probable causes for failure.
- III. Selective methods in securing and rating of students and alumni.

Table I. in this sub-committee report emphasizes social intelligence as the most important general factor with the following specific traits ranking high: sincerity, high ideals and standards, emotional stability, leadership dependability, courtesy and tolerance. High intelligence quotient seems much more important than high scholastic rating.

Table II. emphasizes inadequate preparation as the greatest single cause of failure.

Table III. indicates that present selective methods result in great losses.

The percentage of students finishing their courses from different institutions varies from 21 to 98 per cent.

The committee recommends selection or rejection of entrant on the basis of:

- (a) his intelligence quotient.
- (b) his high school achievement record.
- (c) his professional interest rating.
- (d) his motor ability rating.
- (e) his social intelligence and personality rating.

11. The committee recommends that summer schools restrict themselves to continuation instruction or work which is an integral part of a regular professional course rather than furnishing instruction for beginners.

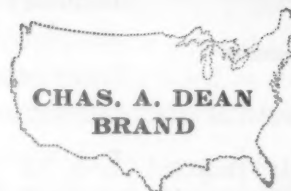
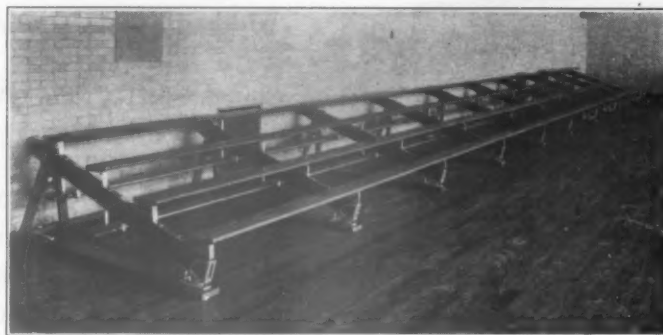
12. The committee recommends that this present study be extended beyond the judgments of experts to include an actual study of the library,

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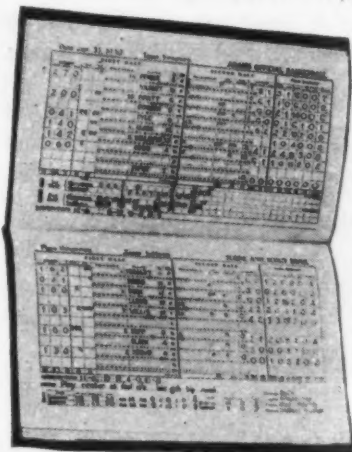
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Legislation

The Committee on Legislation offers no specific legislation program. In the reports of the Subcommittees will be found many illustrations and analyses of the relationship of public legislation to recreation and physical education.

The committee is fortunate in being able to offer two summaries of National and State Legislation on the subject of recreation and physical education:

1. The work of Dr. James F. Rogers, Bureau of Education, Department of the Interior. This summary deals with legislation in the United States.
2. A summary of similar legislation in other countries of the world. This summary represents a piece of formidable research carried on under the direction of Honorable John T. Vance, Chief of the Law Division of the Library of Congress.

Conclusion

What should be done? In the main, follow along the present track. Strengthen the Government's efforts in and out of the school. Increase and improve the public play spaces. Support better the lay agencies working in the field. Increase and improve the trained, volunteer and professional leadership through every qualified agency.

These are the obvious and immediate steps to take. The present organization and administration of the field, along established lines, have yielded many good results. The rural child and the pre-school child are in greatest need of opportunities for advancing their development through physical education and play.

No illusion exists, however, among the leaders of recreation and physical education, that present methods and organization are perfect. Among them there is constant searching and questioning as to the future.

In broad outline the objectives may be stated as follows:

1. Promotion of normal physical growth and structural development.
2. Maintenance of normal functional balance between organic systems.
3. Development of neuromuscular coordination.
4. Development of emotional control and powers of expression.

5. Development of skill in, and love for, physical activities, preferably those of the out-of-doors, that provide satisfaction and that can be continued in leisure time in the years after school.
6. Development of intellectual conception and judgments which are closely integrated with muscle movements and with the emotional joy of accomplishment, such as in highly skilled acts in games and athletics.
7. Strengthening of such qualities of character as honesty, generosity, modesty, fairness and loyalty in social contact through actual practice in games and sports.

It must be hoped that two things may issue from our common efforts:

1. A strengthened resolution to promote the spread of the program of recreation and physical education until eventually all the children will enjoy its advantages.
2. That the great foundations and universities will make possible further research to provide scientific answers to many questions that may not now be answered with authority.

The Multiple Varsity Plan

By Lee K. Anderson

Secretary Oklahoma High School Athletic Association

MR. ANDERSON, for fifteen years connected with athletics, first as player and official, then eight years as coach and three years as secretary of the State High School Athletic Association of Oklahoma, suggests the "Multiple Varsity Plan" for extending benefits to a greater number of students.

SINCE the day that athletics were first recognized as a possible educational tool, school athletic programs have been continually enlarged and improved to increase their general educational value and to more nearly comply with the principles of physical education. Much criticism has been directed at inter-school athletics and particularly football. It has been charged that school athletics are in the "gladiatorial stage" with few participants and seats for many spectators. Being a spectator at a football game on a brisk fall afternoon affords

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Riddell track shoes are a new addition to the established football line. They have been successfully used in such schools as Nebraska, Northwestern, Purdue, Iowa, and many colleges.

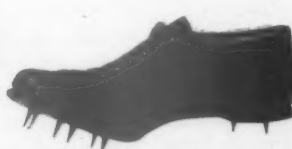
They feature an interchangeable spike that works. In the past two years not a single spike has broken off. Spikes wear well and will not punch up in the feet. They can be easily changed from long to short spikes to meet the condition of indoor or outdoor tracks.

One of the main features in these shoes is the way the spikes are anchored in the shoes. This is a patented feature which gives a much more solid anchorage than the old method of the "big headed tack" spike anchored between the layers of leather. This solid anchorage is especially helpful in broad jumping, since there is no energy lost by spikes wiggling in the soles of shoes. Believe you will find that track men will have less trouble with their feet by using short spikes on indoor tracks.

These shoes come in the following styles carried in stock:



STYLE S: A very fine yellow back kangaroo sprint model. A light but very durable glove fitting shoe.



STYLE J: Jumping shoe to Style S. Has heel and counter, two spikes in heel.
STYLE K: Jumping shoe to Style N. With counter and two spikes in heel.



STYLE N: Same last as Style S, only of blue back kangaroo. An exceptionally fine shoe for all around use. The best track shoe in America for the money.

BASEBALL



STYLE SE: Yellow back hand turned shoe.



STYLE NB: Blue back welt shoe of excellent value.

Manufactured by

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1259 North Wood Street, Chicago, Illinois

wholesome recreation for thousands, but for red blooded young "he Americans" of our schools and colleges it does not suffice.

The greatest value from any sport is received through participation. A vigorous sport such as football appeals to a far greater number of boys than now have an opportunity to participate. In order to extend this opportunity, so as to reach a larger group, we would substitute for the varsity team a number of varsity teams. This plan, which we choose to call "The Multiple Varsity Plan," is applicable to the medium and larger high schools, colleges, and universities. These schools are now organized into small groups, according to their location and size. These conferences or leagues would be the ideal unit for adoption and operation of this plan, which may be varied to best suit the needs of the particular group.

For example, we take an eight-team conference made up of medium size schools with sufficient enrollment to supply two varsity teams. The varsity candidates would be divided into a heavy weight group and a light weight group. A team would be selected from each and in the school's conference schedule games would be matched between teams from the same weight group. The heavy weight team would play one week and the light weight team the next. Schools that matched their heavy weight teams one year would schedule their light weight teams the following season. The school's conference standing would be determined by a composite percentage column.

The schedule would include two or three non-conference games. Your opponents may or may not be following "The Multiple Varsity Plan." If your opponents have only one varsity team you have the alternative of joining your two varsity teams into one or keeping them separate and using both. Should your opponent have two or more weight teams, the game might be played with each school utilizing in any way it desires the best players available.

A fitting climax to the season in colleges and universities would be a final game or series of games between their own varsity teams. My guess is that the heavy weight teams would not dominate the "win column." In high school circles this might not be advisable because of the wide range of weight and age among high school boys.

"The Multiple Varsity Plan" is not needed in the small high school, college or university that is now using all of its available material on one

varsity team. In the larger schools three or four varsity teams might be possible, if so, a modified plan of making the schedule might be adopted.

Let us consider for a moment if this plan is practical. First, coaches might object because it would interfere with their long established system of play. This is hardly worthy of consideration, for the ability of a coach in adapting his style of play to his material is as essential today as it would be under the new plan.

Second, objections might be made on the grounds that the standard of play would be lowered and public support would be lost. We are primarily interested in putting school athletics on a "participation basis" rather than on a "spectator basis." It is doubtful, however, that the standard would be lowered to a noticeable degree. Then, on the other hand, it is believed that the real fans would desire to see the different teams in action. The added number of students participating in high school circles would be an advantage in interesting the public.

Third, the cost would be greater. The cost of additional equipment and the salaries of additional coaches, if any are needed, will be money well spent if the number of students participating is proportionately increased. In most instances no additional coaches will be needed, and in the exceptional cases it would be poor economy to eliminate the students' opportunity because of the lack of a teacher.

"The Multiple Varsity Plan" will bring football in closer coordination with the general purposes of any school's activity program because the importance of scouting would be reduced, due to the possibility of changes in the style of play during a two weeks' practice period. Players would be required to rely more on their own wits during the game.

It will tend to eliminate the importance of individual stars and to develop a cooperative spirit between the different varsity groups. In high schools the younger boy, who has made normal scholastic progress, would be given an opportunity to represent his school, while under the present plan, he is to a large degree eliminated by the scholastically retarded student who is much older and more developed physically.

Because of the fact that each varsity will have fewer games, the practice hours might be shortened during the week of no game. Boys would have more time for study, and for work, if they are required to make a portion of their own way. The possibility of the season becoming a strain or a drudgery would be relieved and

boys would be playing more for the love of the game.

The plan will be an improvement over the "A" and "B" team idea for all varsity teams will be of equal rank and importance. It will not increase the emphasis placed on football. There would be no need for any more inter-school games than are now being played by the "A" varsity team, but double or triple the number of boys will have the opportunity of representing their school by playing on a varsity team.

"Spectatoritis" is the malady that is eating at the very heart of every physical education program and the epidemic is spreading to the youths now in our schools and colleges. Health and character should be the leading objectives of a school's physical education program. Sports are an important part of this program. Football which appeals to such great numbers may be utilized through the "Multiple Varsity Plan" as a means of making health habits and such high principles of character as loyalty, co-operation, courage, self-control, and square dealing a part of the daily lives of many more boys than our present administrative plan provides.

Football Holds Great Appeal to All Lovers of Sport

The Douglas, Arizona, Dispatch has an interesting editorial comment on the great appeal of football today.

"Seven of the principal college football games brought 400,000 people together for an afternoon in the open air last Saturday. They were Yale vs. Army, Notre Dame vs. Pittsburgh, Trojans vs. Stanford, Purdue vs. Wisconsin, Michigan vs. Illinois, Northwestern vs. Centre and Harvard vs. Dartmouth. Stanford's crowd was largest at 88,000.

"Twenty-five years ago there were only three games that brought crowds of from 40,000 to 80,000 once each year. They were Harvard vs. Yale, and each of those teams playing Princeton. But football came into its own in rapid fashion, when such aggregations as Coach Stagg and Coach Yost developed in the middle-west and "Pop" Warner on the west coast until today football, without doubt, is the most popular of all sports with the American public.

"Former President Coolidge recently pointed out the big advantage it has because it is strictly amateur. For that reason it stands a chance of gaining in popularity rather than losing ground. Every boy, physically fit,

has opportunity to display his stuff with his high school or college team. They are looking for material. The time has passed when education connotes only intellectual development. The physical side is getting careful attention now and the football field is one place where it shines.

"Contrary to a belief which long prevailed, it is not a brutal game. Rough, yes. But it merely tests the boy's courage along lines that are worth while having tested. If he belongs in the pacifist group, he ought to be shunted into his proper area but if he is a fighter he ought to be given a chance to display his prowess and take his place with the boys who achieve.

"So long as it is kept on the amateur basis, parents, brothers, sisters, sweethearts all over the land will have many opportunities to thrill as they follow their favorite bearing his college colors trying to carry the ball over the opponent's goal line. Football is a great game."

Are College Sports Declining?

PARKE H. DAVIS in a recent issue of the North American Review believes that the reason for the loss of interest in athletics among the college youths of today is found in a number of distractions such as motor-ing, radio, movies and dancing, unknown to the college students of former years.

Mr. Davis finds, furthermore, that the college course of today makes a greater demand on the students' time than in earlier years. Sports in the playgrounds and public schools are increasing in popularity, he goes on to say. The schoolboys are not so easily distracted as are the college students. He believes "the citadel of sports and game will someday be transferred from the colleges to the public schools."

Offensive Basketball

By E. A. Pfeiffer

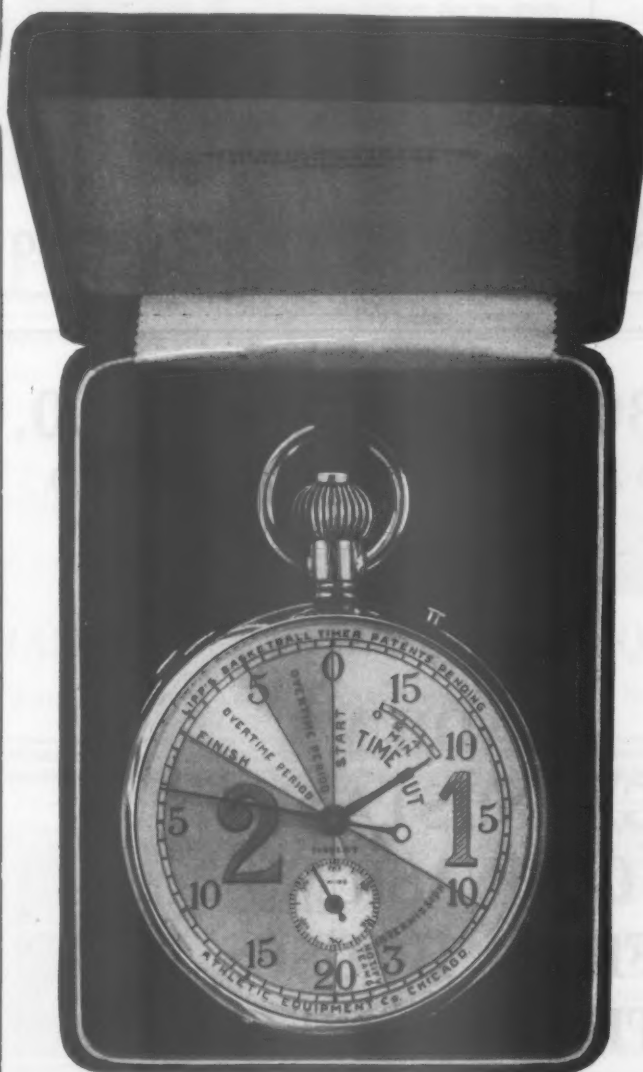
Elkton Public Schools, Elkton, Minn.

A TEAM that is very well grounded in fundamentals to me is one that will do such things as pivot, feint, fake a shot or pass, dribble around a man, cut for the basket or opening, and many other such important phases of the game without stopping to think; that is, they will just do them naturally or automatically.

In order to have a good basketball team, especially one that is strong offensively, it is necessary that each

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man be adept at handling the ball, both as a receiver and as a passer. It is upon these two basic fundamentals that a sound game can be built. The ability to pass can be developed only through continual practice and, in order that this practice might be snappy and interesting to the boys, various situations presenting game conditions should be used. Individual confidence in one's ability is something that the coach must strive to develop during these drills.

There are various styles of offensive basketball play, but undoubtedly one of the most important points in regard to offense is a quick break or cut for the basket or into an opening to receive a pass from a team mate. When playing on the offense a man should keep the defensive man covering him crossed up or constantly worrying about the next maneuver. The offensive man can accomplish this if he will use to his advantage feints and fakes and by playing to advantage the position that his defensive opponent has assumed. Every coach stresses the importance of anticipation of what is coming next on the part of the offense, and, as a result of this anticipation, the preparedness of his defense to counter the offensive thrusts. Consequently, it is a distinct advantage to the offensive player if he can cause the defensive man to anticipate wrongly his next move.

It is utterly impossible for an offensive man to lose his guard if he moves continually at the same speed, but it is a different story when quick stops and starts coupled with turns and pivots are used. While maneuvering, if the offensive man can catch his defensive opponent flat-footed, he can gain enough advantage to lose him readily or to score. I always teach my offensive men to draw the defensive men away from the basket and then try to beat them back by using the change of pace with the quick stop, turn and a fast cut. A team that is composed of players that cannot lose their defensive opponents are fighting for a lost cause.

In the man-for-man style of offense the idea is to get all five men into the play. In coaching high school teams, a coach does not always have five men who are sure ball handlers and who can anticipate the proper play. Because of this, poor passes, fumbles, poor judgment, and such result. Consequently, it is a better plan to use four men in the offense proper and to have the fifth man backing up the play or acting as a trailer. This player may be the weakest scorer but must be a good passer and floor man besides having better than aver-

age defensive ability. His duty will be to protect against quick recovery of a loose ball or to receive a back pass and to feed it to an open team mate. This man should cut for a basket only when he sees a good opening. On quick breaks by the opponents, this man will often have to take care of two offensive men. The back guard, however, should constantly be a scoring threat and should be a good long shot. He should be tall and rugged, because in most cases he will be assigned the backboard work.

A coach should teach his players to receive a pass and to pass the ball in the same motion. There are various kinds of passes that may be used and should be taught; baseball pass, push pass, underhand pass, two-hand, cross-chest pass, bounce pass, hook pass and others. Very few players develop enough skill so that they can use all of these passes effectively, but in practicing them they do develop coordination, which cannot be perfected too much in a basketball player.

The offense should not be built too strongly on tip-off plays and out-of-bounds plays, which are designed for quick scoring. An alert defensive team will see that the offense is properly cared for here. On out-of-bounds play, the man nearest the ball should get it and pass it out quickly and accurately to a team mate. If the opponents are caught off balance, scoring is not so difficult as working the ball through a set defense. There is a tendency for the opposing team to relax when the other team has the ball out of bounds. A few simple tip-off plays that will work if the coach has the tip-off in his favor are an advantage, but a coach should not bank too strongly on them. Getting the tip-off and securing the ball after the tip are two different things. A center or any player, when jumping against an opponent, should get on offense or defense without delay after the jump, and, in many cases, after a return pass will be in a position to score, provided he has lost his jumping opponent by using a quick break.

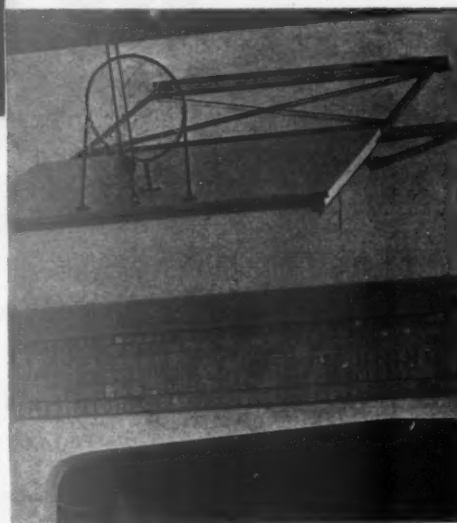
In summarizing, let me say that I believe firmly in the fact that fundamentals are the most important part of the offense. Shooting baskets, ball handling, pivots, turns, feints and fakes, quick starts and stops, and the ability to cut for the opening or the basket make up the foundation for a sound offense. After these basic principles have been mastered, the more complicated features of the game may be brought in. In my estimation, at least eighty per cent of the success of a team's offense lies in the mastery of fundamentals.

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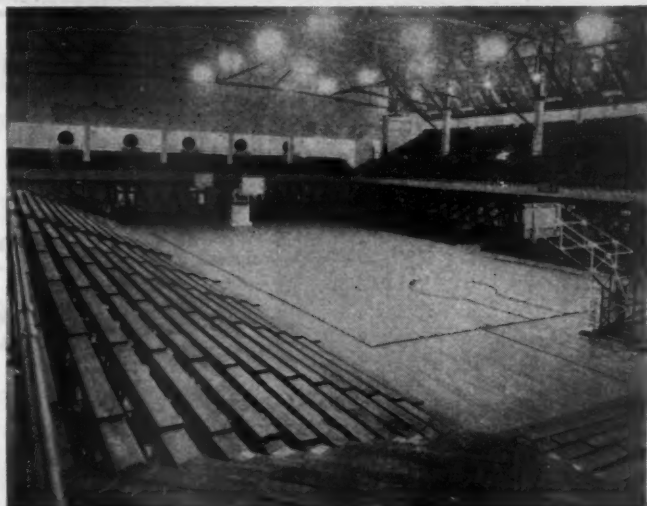
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